









Produced by:
Kam Pankhania
Senior White Goods Technical Engineer
LG Electronics UK Ltd,

Registered Office: LG House, 250 Bath Road, Slough, Berkshire, SL1 4DX / Registered No: 2143888

Engineers Quick Reference Guide

This book has been provided for LG Electronics UK Ltd approved service companies and engineers as a reference guide only. Please take note of the Warnings and precautions for Safety As LG Electronics UK Ltd cannot accept any responsibility for accidents, injuries or fatality when working on our products.

If you are not an approved LG repair Company or Engineer please do not attempt any service other than any suggestions in your owners manual and kindly return this booklet to the address printed on the Back cover.

We would like to encourage you to use this Guide out in the field and hope you find it a useful tool. Should you wish to update your product knowledge we have training modules available at http://www.lgsvc-academy.com/

For the very latest updates and information on LG products, please visit service bulletins please visit the LG website http://eic.lgservice.com/. All website User ID and Passwords can be obtained from your service company.

Please see the contacts pages on the back cover should you need further support.

We would also like to encourage any feedback, and should you have any further suggestions please do not hesitate to contact me at Kam.Pankhania@lge.com.

On Behalf of LG Electronics UK Ltd. We thank you for your hard work, support and care you put into repairing our customers products.

WARNINGS AND PRECAUTIONS FOR SAFETY

Please observe the following safety precautions in order to use safely and correctly the refrigerator and to prevent accident and danger during repair.

- Be care of an electric shock. Disconnect power cord from wall outlet and wait for more than three minutes before replacing PWB parts. Shut off the power whenever replacing and repairing electric components.
- When connecting power cord, please wait for more than five minutes after power cord was disconnected from the wall outlet
- Please check if the power plug is pressed down by the refrigerator against the wall. If the power plug was damaged, it may cause fire or electric shock.
- If the wall outlet is over loaded, it may cause fire. Please use its own individual electrical outlet for the refrigerator.
- Please make sure the outlet is properly earthed, particularly in wet or damp area.
- Use standard electrical components when replacing them
- Make sure the hook is correctly engaged.
 Remove dust and foreign materials from the housing and connecting parts.

- Do not fray, damage, machine, heavily bend, pull out, or twist the power cord.
- Please check the evidence of moisture intrusion in the electrical components. Replace the parts or mask it with insulation tapes if moisture intrusion was confirmed.
- Do not touch the icemaker with hands or tools to confirm the operation of geared motor.
- Do not let the customers repair, disassemble, and reconstruct the refrigerator for themselves. It may cause accident, electric shock, or fire.
- Do not store flammable materials such as ether, benzene, alcohol, chemicals, gas, or medicine in the refrigerator.
- Do not put flower vase, cup, cosmetics, chemicals, etc., or container with full of water on the top of the refrigerator.
- 14. Do not put glass bottles with full of water into the freezer. The contents shall freeze and break the glass hottles
- 15. When you scrap the refrigerator, please disconnect the door gasket first and scrap it where children are not accessible.

We recommend a minimum of 2 Megger Ohms on earth insulation testing and a maximum of 0.25 Ohms for earth continuity tested.

At LG Electronics we take engineer & customer safety very seriously and work within the legal electrical guidelines without compromise. We therefore require that all engineers carry the correct and calibrated testing equipment for electrical safety testing on all our products and record the readings on the job sheet.

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Key Engineering Steps to Repair Service

- 1. Confirm all appointments for that day with guide ETA
- When calling re-confirm the fault and check availability of any spare parts that may be needed.
- Call The customer if delayed prior to appointment time explaining reason for delay and give new ETA
- 4. Dress appropriately and look professional
- When meeting the customer have a friendly Introduction showing your ID card
- 6. Listen to the customers Fault description
- 7. Check model Serial and proof of purchase
- 8. Carry out repair & check for any other faults with unit
- 9. Clean up after repair
- 10. Demonstrate the product working after repair
- 11. Advise customer on product care & maintenance
- 12. Leave customer with job receipt and say goodbye
- 13. Put in a detailed report including any parts used.

In the Event of parts required to be ordered

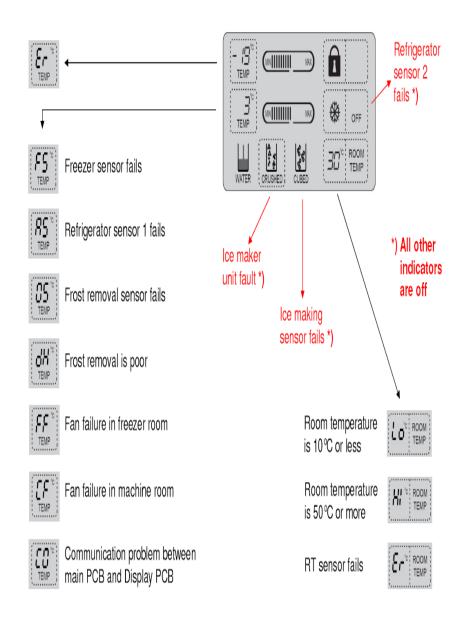
- 1. Fully explain any work that has been done
- 2. Explain what parts are needed giving a rough ETA
- 3. Provide your office phone number
- 4. Place 'purchase order' same day to office
- 5. Chase parts and update customer if no parts have been received in 5 days.

SxS Refrigeration

SxS Error Codes



2



MICOM FUNCTION

2-12. Function of Trouble Diagnosis(88-LED)

- Failure diagnosis function is function to facilitate service when nonconforming matters affecting performance of product during use of product.
- 2. In occurrence of failure, pressing the function adjustment button does not perform function and only alarm sound ("Ding~") rings.
- 3. If nonconforming matters occurred are released during display of failure code, MICOM returns to the original state (Reset).
- 4. Failure code is displayed on the display part of setting temperature for the freezing room and the display part of setting temperature for the cold storage room of LED, which are placed at the display part of a refrigerator. All the LED graphics other than a failure code are turned off.





: Normal Operation

		Failure code	display part		1	Product op	eration statu	us in failure	
No.	ltem	Setting temperature for freezing	Setting temperature for cold storage	Contents of failure	Compressor	Freezer Fan	M/C room Fan	Defrost Heater	Stepping motor damper
1	Failure of freezer sensor	Er	FS	Snapping or short-circuit of freezer sensor	ON for 15minutes OFF for 15minutes	Standard RPM	0	0	0
2	Failure of refrigerator sensor 1	Er	rS	Snapping or short-circuit of refrigerator sensor 1	0	Standard RPM	0	0	Open for 10 munutes, dosing for 15 minutes
3	Failure of refrigerator sensor 2		mperature (Note 2)	Snapping or short-circuit of refrigerator sensor 2	0	Standard RPM	0	0	0
4	Failure of frost removal sensor	Er	dS	Snapping or short-circuit of frost removal sensor	0	Standard RPM	0	No frost removal	0
5	Poor of frost removal	Er	dH	Snapping of frost removal heater or temperature fuse, pull-out of connector (indicated minimum 4 hours after failure occurs)	0	Standard RPM	0	0	0
6	Failure of BLDC FAN at freezing room	Er	FF	Poor motor, hooking of wires to fan. Contact of structures to Fan. Snapping or short-circuit of L/wire	0	OFF	0	0	0
7	Failure of BLDC FAN at machine room	Er	CF	(if there is no fan motor signal for more than 115 seconds in operation of fan motor	0	Standard RPM	OFF	0	0
8	Failure of Communication	Er	СО	Connection between main PCB and display PCB. Snapping or short-circuit of L/wire. Transmission between main PCB and display PCB. Poor TR and receiving part.	0	Standard RPM	0	0	0
9	Failure of Outside Sensor		mperature (Note 1)	Snapping or short-circuit of outside temperature perceiving sensor	0	0	0	0	0
10	Failure of ice removal sensor		mperature (Note 2)	Snapping or short-circuit of ice- making sensor	0	0	0	0	0
11	Failure of ice maker unit		mperature (Note 2)	Poor motor or Hall IC within ice-maker unit. Snapping or short-circuit of L/Wire. Poor main PCB drive circuit.	0	0	0	0	0

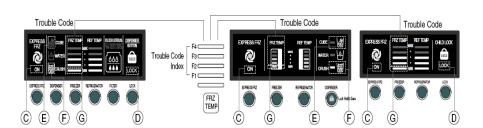
^{*} In display of the failure mode, all LEDs of setting temperature for freezing/ setting temperature for cold storage are turned off (excluding Note1 and Note2).

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MICOM FUNCTION

2-13. Function of Trouble Diagnosis(Bar-LED, Dot-LED)

- 1. Function of trouble diagnosis is to make the repair service easy when the refrigerator is out of order during service.
- 2. The function control button does not work but the recognition sound is heard when the refrigerator is out of order.
- 3. It returns to normal conditions when trouble code led is off. (reset)
- Trouble code is indicated by the freezing temperature indicator led in the refrigerator display. All leds except trouble code are off.



-:On ●:Off ○: PROPER OPERATION

		TROUBLE CODE INDEX			PRODUCT	OPERATION	STAUS IN	FAILURE
NO	ITEM	F1 F2 F3 F4	CONTENTS OF FAILURE	COMPRESSOR	FREEZING BLDC MOTOR	COOLING BLDC MOTOR	DEFROST HEATER	STEPPING MOTOR DAMPTER
1	ABNORMAL FREEZER SENSOR	$\diamond \bullet \bullet \bullet$	FREEZER SENSOR SHORT CIRCUIT	ON FOR 15 MINUTES / OFF FOR 15 MINUTES	STANDARD RPM	0	0	0
2	ABNORMAL REFRIGERATOR SENSOR1(R1) (UPPER PART IN THE REFRIGERATOR COMPARTMENT)	• • •	REFRIGERATOR SENSOR1 SHORT CIRCUIT	0	STANDARD RPM	0	0	FULL OPENING FOR 10 MINUTES/ FULL CLOSING FOR 15 MINUTES
3	ABNORMAL REFRIGERATOR SENSOR2(R2) (UPPER PART IN THE REFRIGERATOR COMPARTMENT)	NORMAL DISPLAY (NOTE 1)	REFRIGERATOR SENSOR2 SHORT CIRCUIT	0	STANDARD RPM	0	0	0
4	ABNORMAL DEFROST SENSOR	• • •	ABNORMAL SHORT CIRCUIT	0	STANDARD RPM	0	NO DEFROST	0
5	FAILED DEFROSTING	\$\$	DEFROST HEATER, TEMPERATURE FUSE SHORT CIRCUIT, UNPLUGGED CONNECTOR (INDICATED 4 HOUR LATER AFTER TROUBLE)	0	STANDARD RPM	0	0	0
6	ABNORMAL FREEZING BLDC MOTOR	· • • · · · · · · · · · · · · · · · · ·	MOTOR DEFECT, HOOKED OF LEAD WIRE TO FAN, CONTACT OF STRUCTURES WITH FAN, SHORT OR OPEN OF LEAD WIRE	0	OFF	0	0	0
7	ABNORMAL COOLING BLDC MOTOR	·\$ ·\$ • •	(THERE IS NO SIGNAL OF BLDC MOTOR MORE THAN 65 SECONDS IN OPERATION OF FAN MOTOR)	0	STANDARD RPM	OFF	0	0
8	ABNORMAL AMBIENT SENSOR	NORMAL DISPLAY (NOTE 1)	AMBIENT SENSOR SHORT CIRCUIT	0	0	0	0	0
9	ABNORMAL ICE-MAKER SENSOR	NORMAL DISPLAY (NOTE 1)	ICE-MAKER SENSOR SHORT CIRCUIT	0	0	0	0	0
10	ABNORMAL ICE-MAKER UNIT	NORMAL DISPLAY (NOTE 1)	FAULTY ICE-MAKER UNIT MOTOR OR HALL IC, LEAD WIRE SHORT CIRCUIT, FAULTY MOTOR DRIVING CIRCUIT	0	0	0	0	0
11	ABNORMAL W/T SENSOR	NORMAL DISPLAY (NOTE 1)	WATER TANK SENSOR SHORT CIRCUIT	0	0	0	0	0

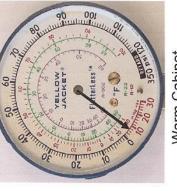


Typical R600a Pressure Readings





Poor Pumping Compressor



Warm Cabinet



Total Restriction



Cold Cabinet



Short Of Gas





Pressure Readings Typical R134a



Equalisation (Compressor Off)

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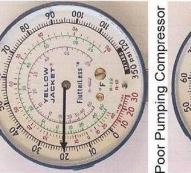




Warm Cabinet



Cold Cabinet





90 001

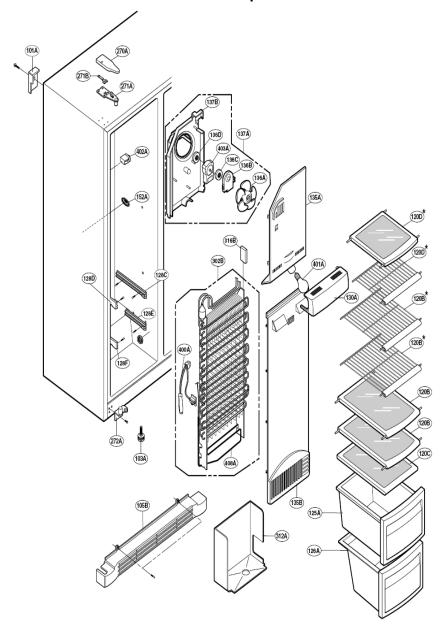
Total Restriction

Short Of Gas

PSI To Bar Table

0-	40	41	-80	81-	200
psi	bar	psi	bar	psi	bar
1	0.07	41	2.83	81	5.59
2	0.14	42	2.9	82	5.65
3	0.21	43	2.97	83	5.72
4	0.28	44	3.03	84	5.79
5	0.34	45	3.1	85	5.86
6	0.41	46	3.17	86	5.93
7	0.48	47	3.24	87	6
8	0.55	48	3.31	88	6.07
9	0.62	49	3.38	89	6.14
10	0.69	50	3.45	90	6.21
11	0.76	51	3.52	91	6.27
12	0.83	52	3.59	92	6.34
13	0.9	53	3.65	93	6.41
14	0.97	54	3.72	94	6.48
15	1.03	55	3.79	95	6.55
16	1.1	56	3.86	96	6.62
17	1.17	57	3.93	97	6.69
18	1.24	58	4	98	6.76
19	1.31	59	4.07	99	6.83
20	1.38	60	4.14	100	6.9
21	1.45	61	4.21	105	7.24
22	1.52	62	4.28	110	7.58
23	1.59	63	4.34	115	7.93
24	1.65	64	4.41	120	8.27
25	1.72	65	4.48	125	8.62
26	1.79	66	4.55	130	8.89
27	1.86	67	4.62	135	9.31
28	1.93	68	4.69	140	9.65
29	2	69	4.76	145	10.1
30	2.07	70	4.83	150	10.34
31	2.14	71	4.9	155	10.69
32	2.21	72	4.97	160	11.03
33	2.28	73	5.03	165	11.38
34	2.34	74	5.1	170	11.72
35	2.41	75	5.17	175	12.07
36	2.48	76	5.24	180	12.41
37	2.55	77	5.31	185	12.76
38	2.62	78	5.38	190	13.1
39	2.69	79	5.45	195	13.45
40	2.76	80	5.52	200	13.79

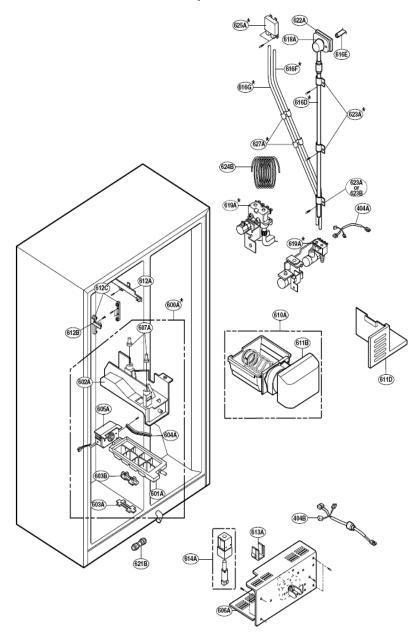
Freezer Cabinet Exploded View

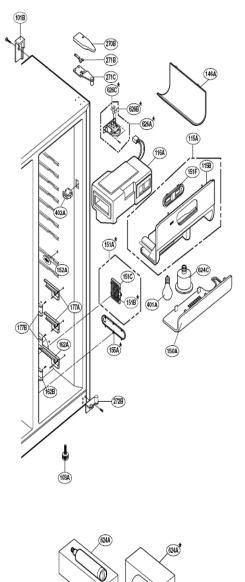


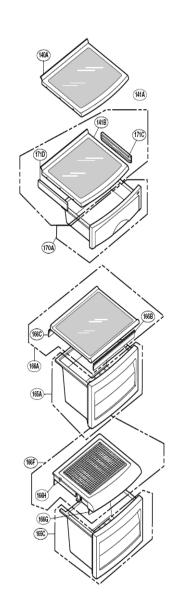
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Ice & Water Exploded View

Fridge Cabinet Exploded View



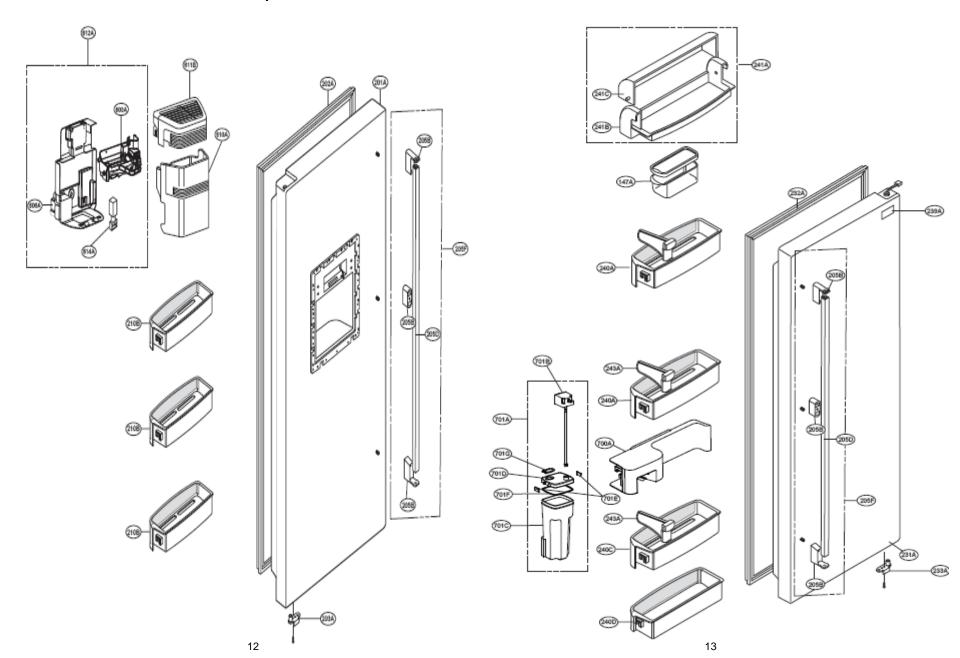




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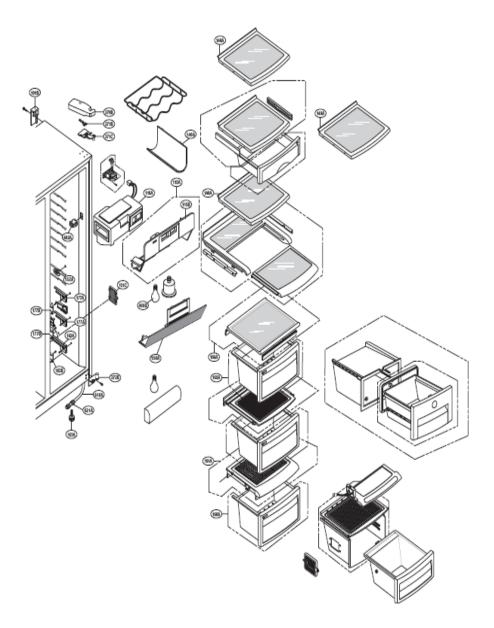
Freezer Door Exploded View

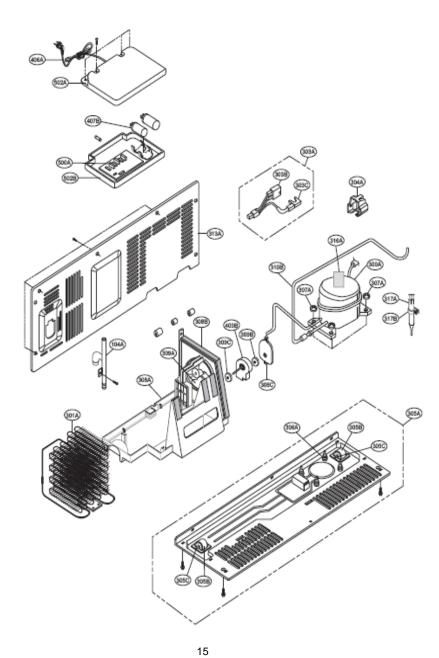
Freezer Door Exploded View



Refrigerator Cabinet Exploded View

Machine Compartment Exploded View





Dispenser Exploded View

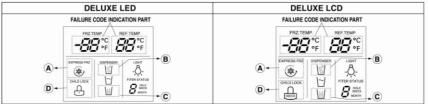
Twin Evaporator SxS



Twin Evaporator Error Codes

2-10. Function of Trouble Diagnosis(88-LED)

- 1. Failure diagnosis function is function to facilitate service when nonconforming matters affecting performance of product during use of product.
- 2. In occurrence of failure, pressing the function adjustment button does not perform function and only alarm sound
- 3. If nonconforming matters occurred are released during display of failure code, MICOM returns to the original state
- 4. Failure code is displayed on the display part of setting temperature for the freezing room and the display part of setting temperature for the cold storage room of LED, which are placed at the display part of a refrigerator. All the LED graphics other than a failure code are turned off



	1	FAILURE CODE I	NDICATION PART			PRO	DUCT OPERATI	ON STAUS IN FA	MLURE	
NO	ITEM	FREEZER ROOM NOTCH TEMPERATURE DISPLAY	REFRIGERATOR ROOM NOTCH TEMPERATURE DISPLAY	CONTENTS OF FAILURE	COMPRESSOR	FREEZER FAN MOTOR	REFRIGERATO R FAN MOTOR	CONDENSER FAN MOTOR	FREEZER DEFROST HEATER	REFRIGERATOR DEFROST HEATER
1	ABNORMAL FREEZER SENSOR	Er	FS	FREEZER SENSOR SHORT CIRCUIT	ON FOR 30 MINUTES/ OFF FOR 10 MINUTES	0	0	0	0	0
2	ABNORMAL REFRIGERATOR SENSOR1(R1) (UPPER PART IN THE REFRIGERATOR COMPARTMENT)	Er	rS	rS REFRIGERATOR SENSOR(R1) SHORT&OPEN CIRCUIT		0	0	0	0	0
3	ABNORMAL REFRIGERATOR SENSOR2(R2) (UPPER PART IN THE REFRIGERATOR COMPARTMENT)	NORMAL DISPLAY(NOTE2)		REFRIGERATOR SENSOR(R2) SHORT&OPEN CIRCUIT	0	0	0	0	0	0
4	ABNORMAL FREEZER SENSOR	F	dS	FREEZER DEFROST SENSOR SHORT&OPEN CIRCUIT	0	0	0	0	0	0
5	ABNORMAL REFRIGERATOR DEFROST SENSOR	r	dS	REFRIGERATOR DEFROST SENSOR(R2) SHORT&OPEN CIRCUIT	0	0	0	0	NO DETROST	0
6	FAILED FREEZER DEFROSTING	F	dH	DEFROST HEATER, TEMPERATURE FUSE SHORT CIRCUIT, UNPLUGGED	0	0	0	0	0	NO
7	FAILED REFRIGERATOR DEFROSTING	r	dH	CONNECTOR (INDICATED 4 HOUR LATER AFTER TROUBLE)		1 200				DETROST
8	ABNORMAL FREEZER FAN MOTOR	Er	FF	MORTOR DEFECT, HOKED OF LEAD WIRE TO FAN CONTACT OF	0	OFF (RE- INSPECTS AFTER 30 MINUTES)	0	0	0	0
9	ABNORMAL REFRIGERATOR FAN MOTOR	Er	rF	STRUCTURE WITH FAN, SHORT OR OPEN OF LEAD WIRE(THERE NO	0	0	OFF THE- INSPECTS AFTER 30 MINUTES)	0	.0	0
10	ABNORMAL CONDENSOR FAN MOTOR	Er	CF	SIGNAL OF BLDC FAN MOTOR MORE THAN 65 SECONDS IN OPERATION OF FAN MOTOR	0	0	0	OFF (RE- INSPECTS AFTER 30 MINUTES)	0	0
11	ABNORMAL COMMUNICATION	Er	СО	SHORT OR OPEN OF LEAD WIRE CONNECTING BETWEEN MAIN PCB AND DISPLAY PCB, TRANSMISSION TR AND RECEIVING PART.	0	0	0	0	0	0
12	ABNORMAL AMBIENT SENSOR	NORMAL DIS	PLAY(NOTE1)	AMBIENT SENSOR SHORT&OPEN CIRCUIT	0	0	0	0	0	0
13	ABNORMAL ICE-MAKER SENSOR	NORMAL DIS	PLAY(NOTE2)	ICE-MAKER SENSOR SHORT&OPEN CIRCUIT	0	0	0	0	0	0
14	ABNORMAL ICE-MAKER UNIT	NORMAL DIS	PLAY(NOTE2)	FAULTY ICE-MAKER UNIT MOTOR OR HALL IC, LEAD WIRE SHORTSOPEN CIRCUIT, FAULTY MOTOR DRIVING CIRCUIT	0	0	0	0	0	0
15	ABNORMAL WATER-TANK SENSOR	NORMAL DIS	PLAY(NOTE2)	WATER-TANK SENSOR SHORT&OPEN CIRCUIT	0	0	0	0	0	0

ALL DISPLAY PARTS TURN OFF OTHER THAN FREEZER ROOM NOTCH TEMPERATURE DISPLAY AND REFRIGERATOR ROOM NOTCH TEMPERATURE DISPLAY(FAILURE CODE

ALL DISPLAY PARTS IN CASE OF INDICATION FOR THE HIPSTATURE DISPLAY AND REPRIGERATOR HOUR HOUR DISPLAY FALLURE CODE
INDICATION PART) IN CASE OF INDICATION FALLOR MODES[EXCEPT FOR NOTE], NOTE2)
INDICATION PART, OTHER DISPLAY PARTS ARE INDICATED NO THE FAILURE CODE INDICATION PART, (OTHER DISPLAY PARTS ARE INDICATED NORMALLY)
INDICATED RS. SENSOR, ICE-MAKER SENSOR, WATER-TANK SENSOR AND ICE-MAKER UNIT IS NOT INDICATED ON THE FAILURE INDICATING PART BUT INDICATED IN CHECKING DISPLAY
PART, (WHEN PRESSING FOR MORE THAN THE BUTTON OF FREEZING TEMPERATURE AND QUICK FREEZING BUTTON FOR MORE THAN 1 SECOND)

	R2-SENSOR(MIDDLE ROOM)		: DISPLAY GRAPHIC ON THE ® PART TURNS ON		1
Г	- H2-SENSON(MIDDLE HOOM)	— ABNORMAL	: DISPLAY GRAPHIC ON THE (A) PART TURNS OFF		
	ICE-MAKER SENSOR	MORMAL	: DISPLAY GRAPHIC ON THE (B) PART TURNS ON		
	IOL-MARLET SERSOT	☐ ABNORMAL	: DISPLAY GRAPHIC ON THE IB PART TURNS OFF		THE OTHER DISPLAY GRAPHICS TURN ON
\perp	ICE-MAKER UNIT	-NORMAL	: DISPLAY GRAPHIC ON THE @ PART TURNS ON		THE OTHER DIGITER I GRAFFILGS TOTAL OR
	IOL-MARLET OWN	- ABNORMAL	: DISPLAY GRAPHIC ON THE @ PART TURNS OFF		
L	WATER-TANK SENSOR	-NORMAL	: DISPLAY GRAPHIC ON THE D PART TURNS ON		
		L ABNORMAL	: DISPLAY GRAPHIC ON THE (1) PART TURNS OFF	_	J

off(excluding Note1 and Note2)

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Twin Evaporator Micom Function Test

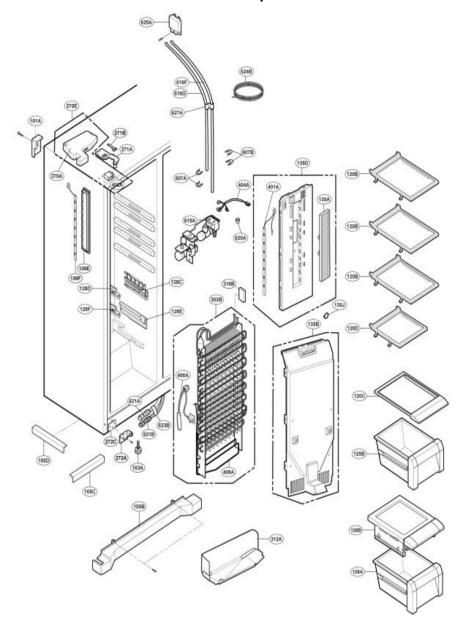
2-11. Test Function

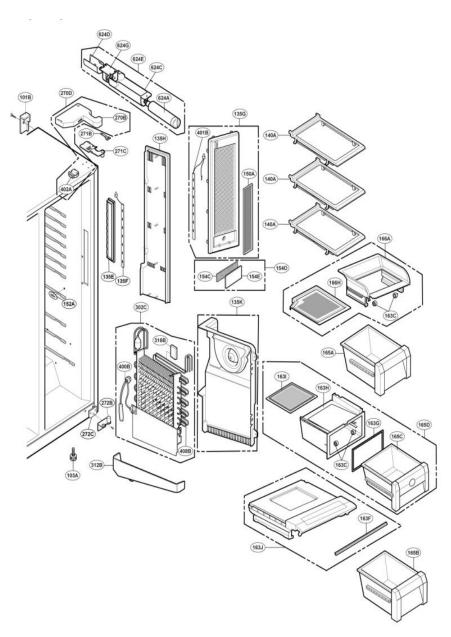
- 1. Test function is function to find out any failed part in the failure status or check function of PWB and the product.
- 2. The test button is placed on the main PCB (test switch) of the refrigerator. The refrigerator ends the test mode after Max. 2 hours irrespective of modes and returns to normal status (reset).
- 3. The function control button is not detected during test mode.
- 4. When ending test mode, take out power cords and insert them again so as to become normal status.
- 5. If defect such as sensor failure during test mode is detected, release Test Mode to display failure code.
- 6. Test Mode is not performed even if pressing the test button during display of failure code.

MODE	OPERATION	CONTE	REMARKS		
TEST1	PRESS THEST BUTTON ONCE «STRONG COLD MODE»	1.CONTINUOUS OPERATION OF COMPRESSOR AND CONDENSER FAN MOTOR. 2.ALL DEFROST HEATERS TURNS OFF 3.10 MINUTES IN EARLY STAGE REFRIGERATOR FAN MOTOR ON 4.AFTER 10 MINUTES ALL FAN MOTORS ON WHEN THE FREEZER SENSOR IS ABOVE +15°C	5.JUST REFRIGERATOR FAN MOTOR ON WHEN THE FREEZER SENSOR IS BELOW -14°C AND REFRIGERATOR SENSOR IS ABOVE +1.5°C 6. REMAINING CONDITION FREEZER FAN MOTOR ON	FREEZER FAN MOTOR TURNS OFF IN FREEZER ROOM DOOR OPENING. REFRIGERATOR FAN MOTOR TURNS OFF IN REFRIGERATOR ROOM DOOR OPENING.	
TEST2	PRESS TEST BUTTON ONCE AT THE TEST MODE 1 STATUS <forced defrost="" mode=""></forced>	1.COMPRESSOR OFF 2.ALL FAN MOTORS OFF 3.ALL DEFROST HEATERS ON	4.ALL DISPLAY GRAPHICS TURNS OFF (ONLY FAILURE CODE INDICATION PART TURNS ON "22" STATUS)	RETURNS TO THE NORMAL MODE WHEN THE FREEZER DEFROST SENSOR IS ABOVE +6°C AND REFRIGERATOR DEFROST SENSOR IS ABOVE +10°C	
NORMAL STATUS	PRESS TEST BUTTON ONCE AT THE TEST MODE 2 STATUS	RETRUING TO INITIAL STATUS		COMPERSSOR WILL OPERATE AFTER DELAY FOR 3 MINUTES	

Freezer Cabinet Exploded View

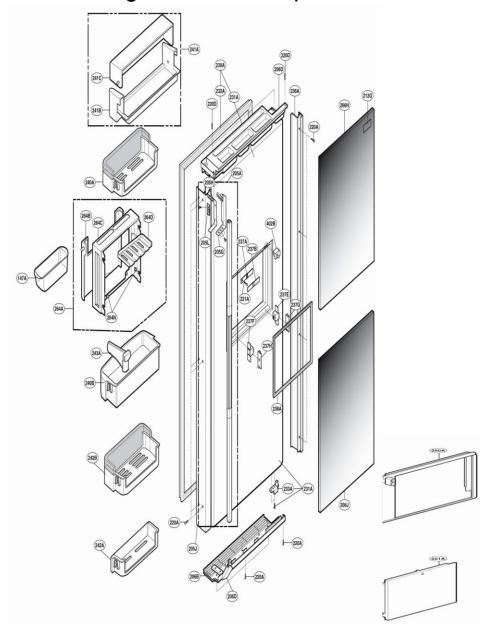
Refrigerator Cabinet Exploded View

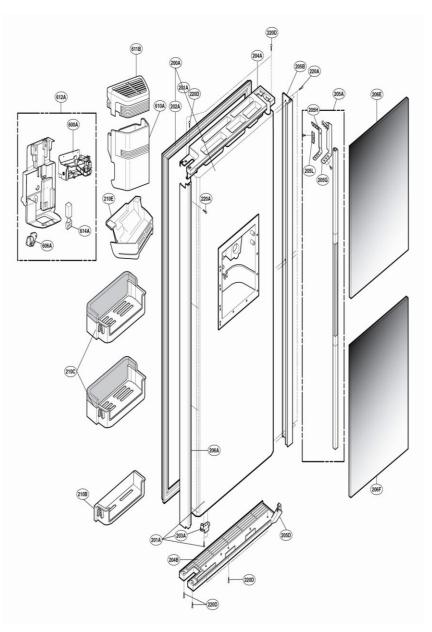




Refrigerator Door Exploded View

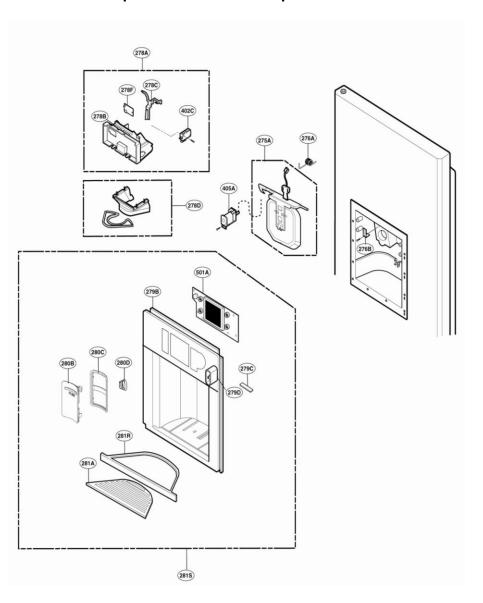
Freezer Door Exploded View

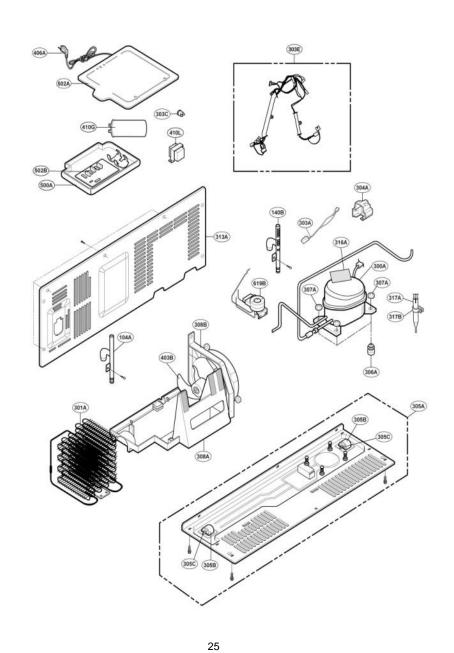




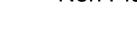
Dispenser Part Exploded View

Machine Compartment Exploded View





Non Plumbed SxS



Non Plumbed Error Codes

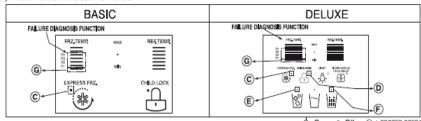
WARNING When you check the Resistance values, be sure to turn off the power. And wait for the voltage-discharge sufficiently.

MICOM FAILURE DIAGNOSIS TABLE

CAUTION 1) DEFECT FAILURE CODE IS INDICATED ON THE DISPLAY PART OF SETUP TEMPERATURE FOR THE COLD STORAGE ROOM AND OF SETUP TEMPERATURE FOR THE FREEZING ROOM, AND THE OTHER DISPLAY PART IS TURNED OFF.

2) MAKE A PROPER OPERATION THROUGH REAPPLICATION AFTER ALWAYS TURNING OFF POWER WHEN DIAGNOSING FAILURE AND FINISHING TEST MODE.

(1) FAILURE DIAGNOSIS FUNCTION



○ : On • : Off ○ : PROPER OPERATION

		TROUBLE CODE INDEX		р	RODUCT OF	FRATION S	TATUS IN F	All URF
NO	ITEM	F1 F2 F3 F4	CONTENTS OF FAILURE		FREEZING BLDC MOTOR	COOLING BLDC MOTOR	DEFROST HEATER	STEPPING MOTOR DAMPTER
1	ABNORMAL FREEZER SENSOR	$\diamond \cdot \cdot \cdot$	FREEZER SENSOR SHORT CIRCUIT	ON FOR 15 WINUTES / OFF FOR 15 MINUTES	STANDARD RPM	0	0	0
2	ABNORMAL REFRIGERATOR SENSOR1(R1) (UPPER PART IN THE REFRIGERATOR COMPARTMENT)	• • • •	REFRIGERATOR SENSOR1 SHORT CIRCUIT	0	STANDARD RPM	0	0	FULL OPENING FOR 19 WINUTES/ FULL CLOSING FOR 15 MINUTES
3	ABNORMAL REFRIGERATOR SENSOR((R2) (LOWER PART IN THE REFRIGERATOR COMPARTMENT)	NORMAL DISPLAY (NOTE 1)	REFRIGERATOR SENSOR2 SHORT CIRCUIT	0	STANDARD RPM	0	0	0
4	ABNORMAL DEFROST SENSOR	• • 💠 •	ABNORMAL SHORT CIRCUIT	0	STANDARD RPM	0	NO DEFROST	0
5	FAILED DEFROSTING		DEFROST HEATER, TEMPERATURE FUSE SHORT CIRCUIT, UNPLUGGED CONNECTOR (INDICATED 4 HOUR LATER AFTER TROUBLE)	0	STANDARD RPM	0	0	0
6	ABNORMAL FREEZING BLDC MOTOR	\$•• \$	MOTOR DEFECT, HOCKED OF LEAD WIRE TO FAN, CONTACT OF STRUCTURES WITH FAN, SHORT OR OPEN OF LEAD WIRE	0	OFF	0	0	0
7	ABNORMAL COOLING BLDC MOTOR	 • • •	(THERE IS NO SIGNAL OF BLDC MOTOR MORE THAN 45 SECONDS IN OPERATION OF FAN MOTOR)	0	STANDARD RPM	OFF	0	0
8	ABNORMAL AMBIENT SENSOR	NORMAL DISPLAY (NOTE 1)	AMBIENT SENSOR SHORT CIRCUIT	0	0	0	0	0
9	ABNORMAL ICE-MAKER SENSOR	NORMAL DISPLAY (NOTE 1)	ICE-MAKER SENSOR SHORT CIRCUIT	0	0	0	0	0
10	ABNORMAL ICE-MAKER UNIT	NORMAL DISPLAY (NOTE 1)	FAULTY ICE-MAKER UNIT MOTOR OR HALL IC, LEAD WIRE SHORT CIRCUIT, FAULTY MOTOR DRIVING CIRCUIT	0	0	0	0	0
11	ABNORMAL WIT SENSOR	NORMAL DISPLAY (NOTE 1)	WATER TANK SENSOR SHORT CIRCUIT	0	0	0	0	0

*ALL DISPLAY PARTS TURN OF OTHER THAN FREEZER ROOM NOTCH TEMPERATURE DISPLAY AND REFRIGERATOR ROOM NOTCH TEMPERATURE DISPLAY/FALURE CODE INDICATION PART) IN CASE OF INDICATING FAILURE MODES(EXCEPT FOR NOTE!)

NOTE 1) RO-SENSOR, WATER TANK SENSOR, ICE MAKER-SENSOR, ICE MAKER UNIT AND AMBIENT SENSOR ARE NOT INDICATED ON THE FARILURE INDICATING PART BUT INDICATED IN CHECKING DISPLAY (WHEN PRESSING THE BUTTON OF FREEZING TEMPERATURE AND EXPRESS FREEZER BUTTON FOR MORE THAN 1 SECOND.

RASERSORAMIDIOLE ROOM)

NO R IN A L : LED GRAPPHIC ON THE (C) PART TURNS OF LAND RESERVED OF THE CONTROL OF THE CONTROL OF THE CONTROL ON THE

- AMBIENT SENSOR

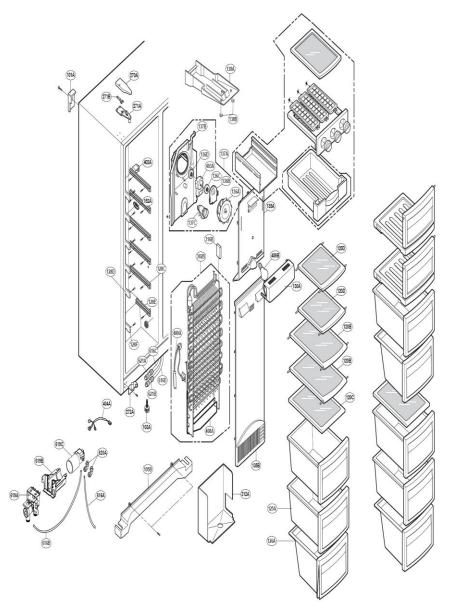
THE OTHER LED GRAPHICS TURN ON



New Non Plumbed Error Codes

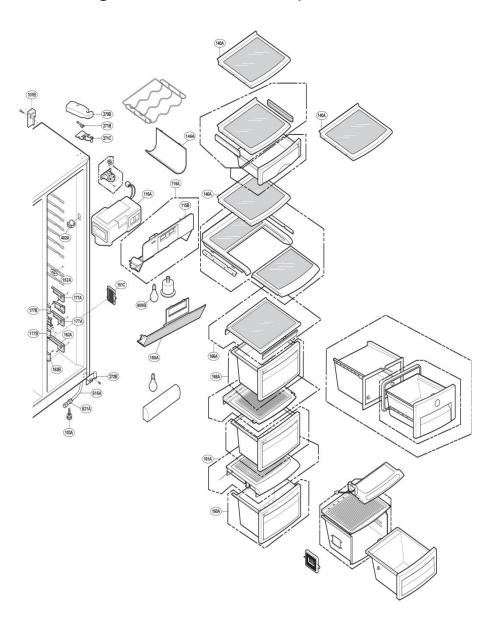
Freezer Cabinet Exploded View

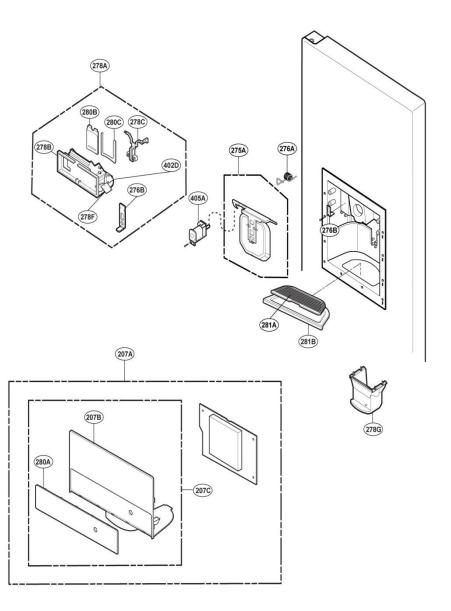
							С): PROPER	OPERAT I ON
		FAILURE CODE II	NDICATION PART		PROD	UCT OPERAT	ON STATUS	IN FA I LUF	E
NO	ITEM	FREEZER ROOM NOTCH TEMPERATURE DISPLAY	REFRIGERATOR ROOM NOTCH TEMPERATURE DISPLAY	CONTENTS OF FAILURE	COMPRESSOR	FREEZING BLDC MOTOR	COOLING BLDC MOTOR	DEFROST HEATER	STEPPING MOTOR DAMPTER
1	ABNORMAL FREEZER SENSOR	Er	FS	FREEZER SENSOR SHORT CIRCUIT	ON FOR 15 MINUTES / OFF FOR 15 MINUTES	STANDARD RPM	0	0	0
2	ABNORMAL REFRIGERATOR SENSOR1(R1) (UPPER PART IN THE REFRIGERATOR COMPARTMENT)	Er	rS	REFRIGERATOR SENSOR1 SHORT CIRCUIT	0	STANDARD RPM	0	0	FULL OPENING FOR 10 MINUTES/ FULL CLOSING FOR 15 MINUTES
3	ABNORMAL REFRIGERATOR SENSOR2(R2) (LOWER PART IN THE REFRIGERATOR COMPARTMENT)	*Er	r2	REFRIGERATOR SENSOR2 SHORT CIRCUIT	0	STANDARD RPM	0	0	0
4	ABNORMAL DEFROST SENSOR	Er	dS	ABNORMAL SHORT CIRCUIT	0	STANDARD RPM	0	NO DEFROST	0
5	FAILED DEFROSTING	Er	dH	DEFROST HEATER, TEMPERATURE FUSE SHORT CIRCUIT,UNPLUGGED CONNECTOR(INDICATED 4 HOUR LATER AFTER TROUBLE)	0	STANDARD RPM	0	0	0
6	ABNORMAL FREEZING BLDC MOTOR	Er	FF	MOTOR DEFECT, HOOKED OF LEAD WIRE TO FAN, CONTACT OF	0	OFF	0	0	0
7	ABNORMAL COOLING BLDC MOTOR	Er	CF	STRUCTURES WITH FAN, SHORT OR OPEN OF LEAD WIRE(THERE IS NO SIGNAL OF BLDC MOTOR MORE THAN 65 SECONDS IN OPERATION OF FAN MOTOR)	0	STANDARD RPM	OFF	0	0
8	ABNORMAL COMMUNICATION	Er	CO	SHORT OR OPEN OF LEAD WIRE CONNECTING BETWEEN MAIN PCB AND DISPLAY PCB, TRANSMISSION TR AND RECEIVING PART	0	STANDARD RPM	0	0	0
9	ABNORMAL AMBIENT SENSOR	*Er	rt	AMBIENT SENSOR SHORT CIRCUIT	0	0	0	0	0
10	ABNORMAL ICE-MAKER SENSOR	*Er	IS	ICE-MAKER SENSOR SHORT CIRCUIT	0	0	0	0	0
11	ABNORMAL ICE-MAKER UNIT	*Er	lt	FAULTY ICE-MAKER UNIT MOTOR OR HALL IC, LEAD WIRE SHORT CIRCUIT, FAULTY MOTOR DRIMING CIRCUIT	0	0	0	0	0
12	ABNORMAL WATERTANK SENSOR ABNORMAL MAGICROOM SENSOR	*Er	SS	WATER-TANK SENSOR SHORT&OPEN CIRCUIT	0	0	0	0	0



Refrigerator Cabinet Exploded View

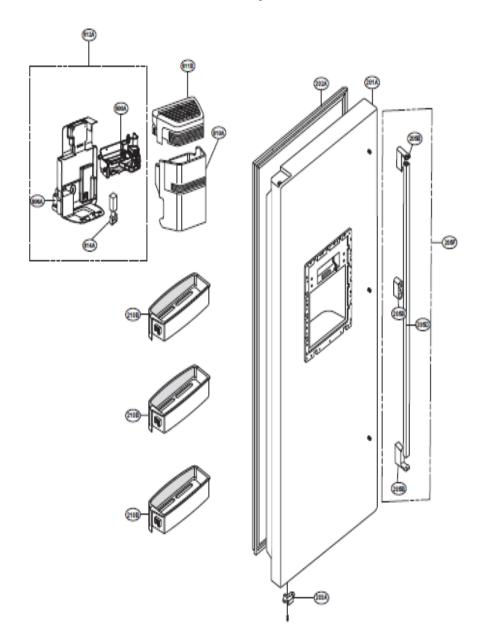
Dispenser Exploded View

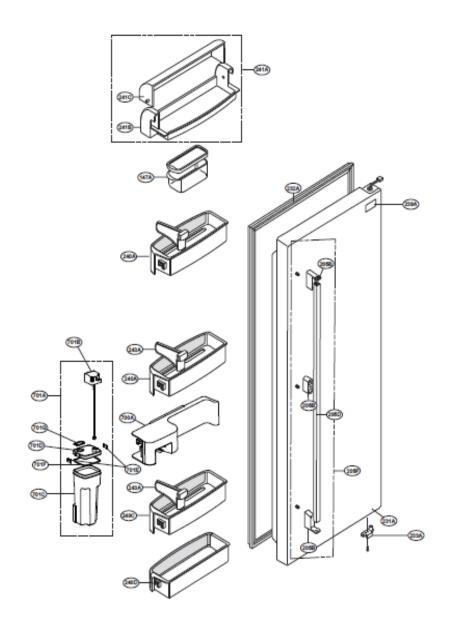




Freezer Door Exploded View

Refrigerator Door Exploded View





Machine Compartment Exploded View

Combination Fridge/Freezer



Combination Error Codes

10) DEFECT DIAGNOSIS FUNCTION

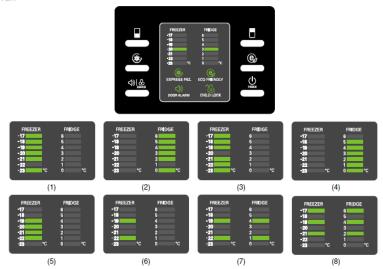
- (1) Automatic diagnosis makes servicing the refrigerator easy.
- (2) When a defect occurs, the buttons will not operate: but the tones, such as ding, will sound.
- (3) When the defect CODE removes the sign, it returns to normal operation (RESET).
- (4) The defect CODE shows on the Refrigerator and Freezer Display.

▶BEST



	Error Code			
NO	ltem	Set Temperature of the Freezer	Contents	Remarks
1	Normality	temperature.	-	Display Switch is normal.
2	Failure of Freezer Sensor	FS	Cut or short circuit wire	
3	Failure of Refrigerator Sensor	rS	Cut or short circuit wire	
4	Failure of Defrost sensor	dS F	Cut or short circuit wire	Inspection connecting wires on each sensor.
5	Failure of RT sensor	rt	Cut or short circuit wire	
6	Failure of O/F sensor	SS	Cut or short circuit wire	
7	Poor of Drfrost	dH F	1 hour later After starting defrost. If sensor doesn't be over 8°C.	Snapping of defrost heater and Temperature fuse, Poor of Heater relay operation, Drain is blocked.
8	Failure of BLDC Fan Motor at Freezing Compartment.	FF	If there is no fan motor signal for more 65 sec in operation fan motor.	Poor motor, hooking to wire of fan and drive IC, TR
9	Failure of BLDC Fan Motor at Mechanical Room	CF	If there is no fan motor signal for more 65 sec in operation fan motor.	Poor motor, hooking to wire of fan and drive IC, TR
10	Failure of Communication	со	If there is no signal for communication between main PCB and display PCB.	Short of lead wire connecting between main PCB and Display, transmission TR and receiving part.

▶ BETTER



		Error Codes		
NO	ltem	Set Temperature of the Freezer	Contents	Remarks
1	Normality	temperature.	-	Display Switch is normal.
2	Failure of Freezer Sensor	(1)	Cut or short circuit wire	
3	Failure of Refrigerator Sensor	(2)	Cut or short circuit wire	Inspection connecting
4	Failure of Defrost sensor	(3)	Cut or short circuit wire	wires on each sensor.
5	Failure of RT sensor	ure of RT sensor (4) Cut or sho		
6	Poor of Drfrost	Poor of Drfrost (5) 1 hour later After starting defrost. If sensor doesn't be over 8°C.		Snapping of defrost heater and Temperature fuse, Poor of Heater relay operation, Drain is blocked.
7	Failure of BLDC Fan Motor at Freezing Compartment.	(6)	If there is no fan motor signal for more 65 sec in operation fan motor.	Poor motor, hooking to wire of fan and drive IC, TR
8	Failure of BLDC Fan Motor at Mechanical Room	(7)	If there is no fan motor signal for more 65 sec in operation fan motor.	Poor motor, hooking to wire of fan and drive IC, TR
9	Failure of Communication	(8)	If there is no signal for communication between main PCB and display PCB.	Short of lead wire connecting between main PCB and Display, transmission TR and receiving part.

Cabinet Exploded View

Ref. No: GB7143**(P/R)W, GB7138**(V/X)W

▼ The parts of refrigerator and the shape of each part are subject to change in different localities.

1. Error Code Summary

	<u> </u>	WARNING
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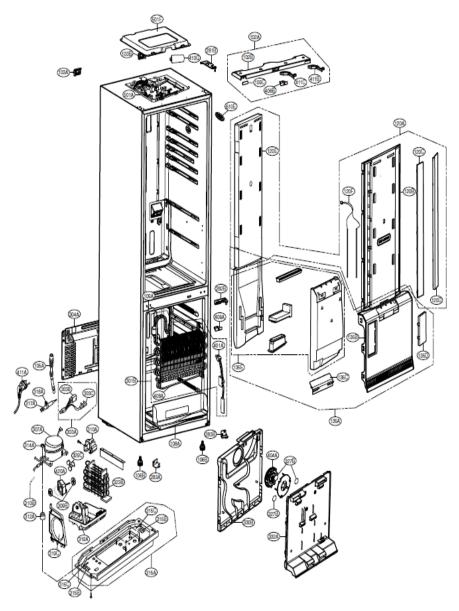
When you check the Resistance values, be sure to turn off the power. And wait for the voltage-discharge sufficiently.

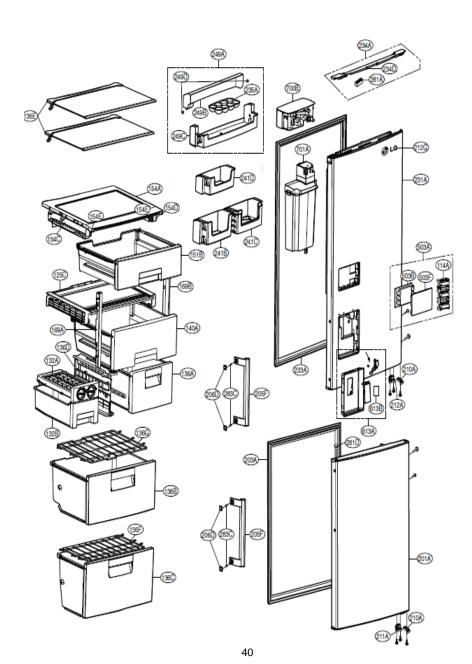
(1) FAILURE DIAGNOISS FUNCTION

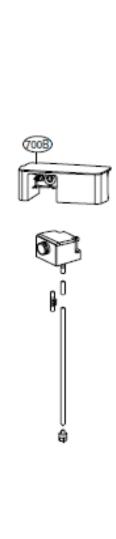
○ : Normality

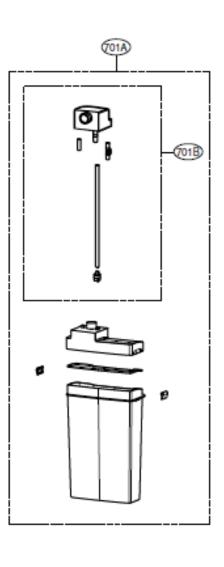
				Load control		
NO	Item	COMP	Machine room fan	Freezer fan	Defrosting heater	Damper
1	Normal	0	0	0	0	0
2	Freezing sensor failure	15 min ON /15 min OFF	15 min ON /15 min OFF	0	0	0
3	Cooling sensor failure	0	0	0	0	10 min open / 15 min close
4	Defrosting sensor failure	0	0	0	No defrosting (immediate return)	0
5	Outdoor sensor failure	0	0	0	0	(No outdoor temp compen sation)
6	Miracle sensor failure	0	0	0	0	(M damper off)
7	Defrosting failure	0	0	0	0	0
8	Freezer BLDC fan motor failure	0	0	Periodical On/Off	0	0
9	Machine room fan motor failure	0	Periodical On/Off	0	0	0
10	Communicati on failure	0	0	(Standard operation)	0	0

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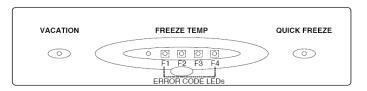




Combination Model Type GR389/399 Error Codes

8) SELF-TEST

- (1) Function to make service easy in case of occuring a trouble in the product.
- (2) When occurring a trouble, if the button is pushed, but the function could not operate.
- (3) If a toruble release during the representation of trouble, a refrigerator performs the normal function(RESET).
- (4) To represent a ERROR CODE, it use FREEZE TEMP LEDs on TOP COVER. If ERROR occurs, the other LEDs except ERROR CODE LEDs are all off.



O · OPERATE NORMAL	NO: 💠
O . OF LITATE NOTIVIAL	● :OFF

NO.	ITEMS	ERROR CODE LEDS	OPERATION	IN TROUBLE'S	OCCURRING	
NO.	O. ITEMS F1 F2 F3 F4 DESCRIPTION		DESCRIPTION	COMP	FAN	DEFROST HEATER
1	FREEZER SENSOR abnormal		FREEZER SENSOR open or short.	15 minutes On/ 15 minutes Off	0	0
2	DEFROST SENSOR abnormal	• • •	DEFROST SENSOR open or short.	0	0	No defrosting
3	DEFROSTING FUNCTION is abnormal		DEFROST HEATER, TEMP. FUSE open or disconnection (Displayed after at least 4 hours from the trouble's occurring.)	0	0	0
4	RT-SENSOR abnormal	NOTE 1)	Room Temperature SENSOR open or short	0	0	0

 NOTE 1) If one second pass after pressing the QUICK FREEZE and FREEZE TEMP buttons togather in normal operation, operates as follow.

RT-SENSOR If normal, LEDs on the TOP COVER is all on.
If abnormal, LEDs are all on except VACATION LED.

9) FUNCTION TEST

- (1) Function to check the testing function of PCB and refrigerator and to find where the trouble.
- (2) The test switch is on the MAIN PCB of refrigerator.
- TEST FUNCTION is released and RESET after MAX. 2hours regardless of TEST MODE.
- (3) If the buttons on TOP COVER is pushed during TEST MODE, Function is not operated and only BUZZER ring with "DING~ DONG~"
- (4) After the end of TEST MODE, pull out the power cord and plug it in again(RESET).
- (5) If a ERROR occurs during the TEST MODE, TEST FUNCTION is released and DISPLAY LEDs represent ERROR CODE.
- (6) If the TEST swithch is pushed during ERROR CODE, TEST FUNCTION is not operated.

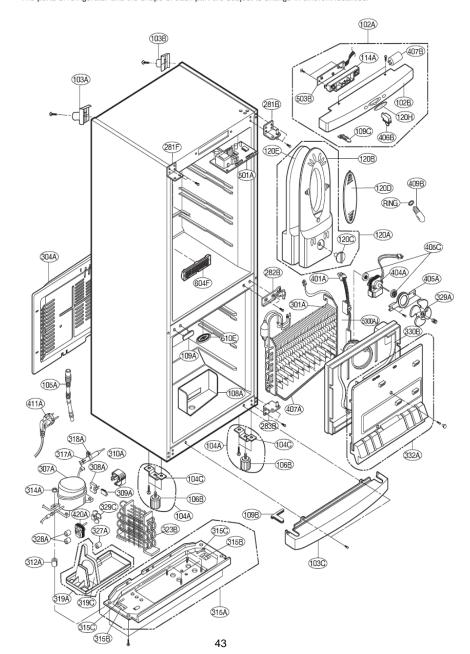
MODE	OPERATION	CONTENTS	REMARKS
TEST 1	Press TEST button once.	COMP OPERATES SUCCESSIVELY. FAN OPERATES SUCCESSIVELY. DEFROSTING HEATER OFF ALL DISPLAY LEDS ON.	
TEST 2	Press TEST button once in the state of TEST MODE 1.	1. COMP OFF, 2. FAN OFF. 3. DEFROST HEATER ON. 4. ALL THE DISPLAY LEDS OFF EXCEPT QUICK FREEZE AND VACATION LEDS.	If DEFROST HEATER is over 7°C, it returns to the NORMAL STATE.
NORMAL STATE	Press TEST button once in the state of TEST MODE 2.	Return to the initial condition. (RESET)	Comp starts after 7 minutes.

LED Check Function: Press the QUICK FREEZE and FREEZE TEMP buttons at the same time. After 1 sec., all the LEDs of the DISPLAY are ON simultaneously. If release the BUTTON, return to the previous condition.

Cabinet Exploded View

1.Ref. No : GR-359/399

· •The parts of refrigerator and the shape of each part are subject to change in different localities.



Combination Model Type GR419 Error Codes

► BETTER



- Show ERR	OR CODE	on display	panel.						(C): ON	•: OFF
Item		f Freezer nsor		ıre of tor sensor		of defrost isor	Poor of	defrost	Failure sensor	
	①	2	0	2	①	2	①	2	0	2
ERROR CODE	00000	All off	00000	All off	00000	All off	00000	All off	0000	All off

► GOOD



- Show ER	ROR CODE on display panel.		○ : ON	
NO	Item	ERROR CODE		
NO	item	•	2	
1	Failure of Freezer sensor	•0000	All off	
2	Failure of Refrigerator sensor	0 • 0 0 0	All off	
3	Failure of defrost sensor	0000	All off	
4	Poor of defrost	0000	All off	
	E-11		A 11 - 45	

NOTE) When the SUPER FRZ. button and FRZ. Temp button are pushed and held for 1 second or longer, ERROR CODE

10) FUNCTION TEST

- (1) Function to check the testing function of PCB and refrigerator and to find where the trouble
- (2) The test switch is on the MAIN PCB of refrigerator. TEST FUNCTION is released and RESET after MAX. 2hours regardless of TEST MODE.
- (3) If the buttons on TOP COVER is pushed during TEST MODE, Function is not operated and only BUZZER ring with
- (4) After the end of TEST MODE, pull out the power cord and plug it in again(RESET).
- (5) If a ERROR occurs during the TEST MODE, TEST FUNCTION is released and DISPLAY represent ERROR CODE.
- (6) If the TEST swithch is pushed during ERROR CODE, TEST FUNCTION is not operated.

MODE	OPERATION	CONTENTS	REMARKS
TEST 1	Press TEST button once.	Continuous operation of the compressor. Continuous operation of the freezer fan. STEPPING DAMPER OPEN. Defrosting Heater OFF. ALL Graphics ON.	
TEST 2	Press TEST button once in the state of TEST MODE 1.	COMP OFF. FREEZER FAN OFF. STEPPING DAMPER CLOSE. Defrosting Heater ON. The 1st, 2nd, 3rd LED of DISPLAY is ON.	If DEFROST SENSOR is over 8°C, it returns to the NORMAL STATE.
NORMAL STATE	Press TEST button once in the state of TEST MODE 2.	Return to the initial condition. (RESET)	Comp starts after 7 minutes.

[·] LED Check Function: Press the SUPER FREEZE and FREEZE TEMP buttons at the same time. After 1 sec., all the GRAPHICS of the DISPLAY are ON simultaneously. If release the BUTTON, return to the previous

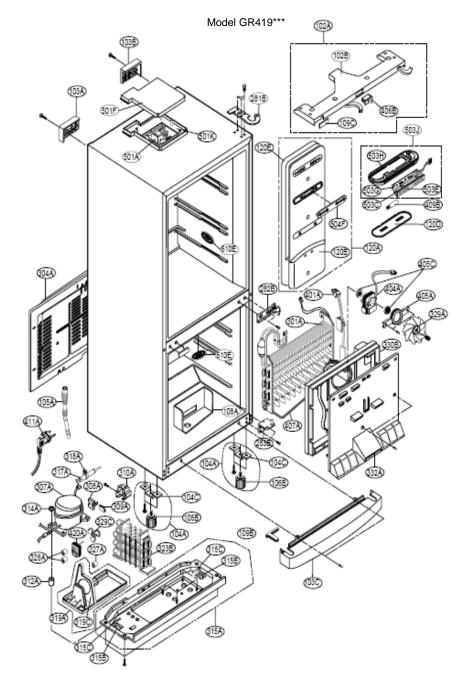
Combination Model Type GCB399 Error Codes

N). ITEMS	ERROR CODE	NORMAL CODE	DESCRIPTION	REMARK
	FREEZER SENSOR abnormal	RETIME !	88	FREEZER SENSOR open or short.	Press VACATION and FRZ TEMP
	DEFROST SENSOR abnormal	R2	88	DEFROST SENSOR open or short.	buttons together for two seconds.
;	DEFROSTING FUNCTION Is abnormal	RZTNE R3	88 88	DEFROST HEATER, TEMP. FUSE open or disconnection (Displayed after at least 4 hours from the trouble's occurring.)	

8) FUNCTION TEST

- (1) Function to check the testing function of PCB and refrigerator and to find where the trouble.
- (2) The test switch is on the MAIN PCB of refrigerator. TEST FUNCTION is released and RESET after MAX. 2hours regardless of TEST MODE.
- (3) If the buttons on the door is pushed during TEST MODE, Function is not operated and only BUZZER ring with "DING~"
- (4) After the end of TEST MODE, pull out the power cord and plug it in again(RESET).
- (5) If a ERROR occurs during the TEST MODE, TEST FUNCTION is released and DISPLAY LEDs represent ERROR CODE.
- (6) If the TEST swithch is pushed during ERROR CODE, TEST FUNCTION is not operated.

MODE	OPERATION	CONTENTS	REMARKS
TEST 1	Press TEST button once.	COMP OPERATES SUCCESSIVELY. FAN OPERATES SUCCESSIVELY. DEFROSTING HEATER OFF	
		ALL DISPLAY LEDS ON. (*Press VACATION and FRZ TEMP buttons together for two seconds.)	
TEST 2	Press TEST button once in the state of TEST MODE 1.	1. COMP OFF. 2. FAN OFF. 3. DEFROST HEATER ON.	If DEFROST HEATER is over 7°C, it returns to the NORMAL STATE.
		 ALL THE DISPLAY LEDS OFF EXCEPT QUICK FREEZE AND VACATION LEDS. (*Press VACATION and FRZ TEMP buttons together for two seconds.) 	
NORMAL STATE	Press TEST button once in the state of TEST MODE 2.	Return to the initial condition. (RESET)	Comp starts after 7 minutes.



Top 50 Refrigeration Parts Used

No	Parts No	Product	Item Description	Mapping Model Code
1	5231JA2012A	RF	Filter Assembly, Water	GR-267EHF
2	ADQ32617703	RF	Filter Assembly, Water	GR-267EHF
3	5433JA1152C	RF	Door Foam Assembly, Home Bar	GR-267EHF
4	AHA72909001	RF	Pump Assembly	GWL227HSYA
5	AEQ32381001	RF	Ice Maker Assembly,Kit	GR-267EHF
6	4838JA1004A	RF	Tank, Water	GR-267EHF
7	MJX57763201	RF	Valve,Water	GWL227HSYA
8	AJU30690301	RF	Valve Assembly, Water	*R-151SF
9	AHT65058003	RF	Shelf Assembly,Refrigerator	GW-B207FLQA
10	EAU35507301	RF	Motor,AC	GR-267EHF
11	AJP31573002	RF	Tray Assembly, Vegetable	GR-267EHF
12	AJL30690601	RF	Tank Assembly, Water	*R-151SF
13	3650JQ1054D	RF	Handle,Decor	GR-267EHF
14	MCD61866801	RF	Connector,Tube	GR-P247CNPV
15	AJL72992401	RF	Tank Assembly, Water	GCF-3923AC
16	AJU72909901	RF	Valve Assembly, Water	GWL227HSYA
17	6615JB2002R	RF	Controller Assembly	GW-B207FSQK
18	MCD61866802	RF	Connector,Tube	GR-P247CNPV
19	6421JB2002B	RF	Solenoid,Reversing,Valve	GR-267EHF
20	MCD61866803	RF	Connector,Tube	GW-P209FQA
21	AJP31574406	RF	Tray Assembly, Drawer	GR-267EHF
22	ADD72909637	RF	Door Foam Assembly, Refrigerator	GWL227HBYA
23	AED36768606	RF	Handle Assembly GWL207FBQA	
24	ADX31571022	RF	Gasket Assembly, Door	GW-B207FLQA
25	6912JB2008A	RF	Lamp,Incandescent	GR-267EHF

Refrigeration FAQ's

26	EBE60661302	RF	Solenoid Assembly	GW-L227HSYZ
27	3651JA2266E	RF	Handle Assembly, Freezer	GR-267EHF
28	5300JB1092B	RF	Heater,Sheath	GR-267EHF
29	TCA30071901	RF	Compressor, Set Assembly	GR-267EHF
30	3581JQ2003A	RF	Door Assembly,Freeze Room	GR-267EHF
31	5210JA3004A	RF	Tube,Plastic	GR-267EHF
32	ADD72909636	RF	Door Foam Assembly,Refrigerator	GWL227HSYA
33	MBL62621606	RF	Cap,Screw	GCD-3922NS
34	4932JA3002A	RF	Connector, Tube	GR-267EHF
35	4975JQ1005B	RF	Guide Assembly,Rail	GR-267EHF
36	5989JA1002K	RF	Ice Maker Assembly,Kit	GW-L207FLQV
37	3650JQ2035D	RF	Handle,Decor	GR-267EHF
38	ADX31571025	RF	Gasket Assembly, Door	GWB207FBQA
39	AHT65058006	RF	Shelf Assembly, Refrigerator	GW-L227BTQV
40	3219JA3001E	RF	Tube Assembly, Wire Condensor	GR-L207EQ
41	4932JA3009C	RF	Connector, Tube	GR-F218JTTA
42	6912JB2004L	RF	Lamp,Incandescent	GR-267EHF
43	AJL73051901	RF	Tank Assembly, Water	GS7161STAV
44	AKC32375401	RF	Bucket Assembly,Ice	GR-267EHF
45	3550JA1495A	RF	Cover,Lamp	GR-267EHF
46	5421JA1124F	RF	Evaporator Assembly	*R-151SF
47	ADX62799509	RF	Gasket Assembly, Door	GR-267EHF
48	5005JA1008N	RF	Basket Assembly, Door	GR-267EHF
49	5005JQ1007G	RF	Basket Assembly, Door	GR-267EHF
50	5220JA2008A	RF	Valve, Water	GR-267EHF

Q. What is the correct temp to set Freezer and Fridge?

A. Preferred Setting is -21deg for freezer and 3-4 deg.

Q. Frosting up in the Freezer?

A. Door is left ajar for a long period of time or door seal is not sealing properly

Q. Freezer door opening when shutting fridge door on combination fridge freezer?

A. Freezer door not closed properly, obstacle stopping it from closing ie: Icemaker mould on top shelf remove and place on bottom shelf.

Q. Freezer not cooling properly?

A. Blocked or dirty vent at the rear ventilation or an iced up evaporator

Q. Where to set vegetable drawer setting (High or Low)?

A. High for vegetables and low for meat.

Q. Ice not dispensing?

A. Jammed ice in the ice box or auger motor weak.

Q. Not producing ice?

A. Icemaker may be switched off, or ice maker may need resetting, or no water supply.

Q. Food in the fridge all frozen?

A. Check the damper and also if the temperature setting too cold.

Q. Noisy when fridge is operating?

A. Suction pipes vibrating or freezer fan jammed up with ice.

Q. No water coming out from dispenser or neither making ice?

A. Water tank empty or air lock in the water pipes.

Washing Machine



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All Washing Machine Error Codes

- If you press the Start/Pause button in error condition, any error except 'PE' will disappear and the machine will change into pause status.
- In case of 『PE』, 『ŁE』, if the error is not resolved within 20 sec., and in case of other errors, if the error is not resolved within 4 min., power will be turned off automatically and the error only will be blinked. But in case of 『FE』, power will not be turned off.

	ERROR	SYMPTOM	CAUSE
1	WATER INLET ERROR	*	Not reached to the water level(246)within 8 minutes after water supplied or not reached to the preset water level within 25 minutes.
2	DRAIN ERROR	*Ö	Not fully drained within 10 minutes.
3	OVERFLOW ERROR	FE	Water is over flowing(over 8 level). If "FE" is displayed, drain pump operates to drain water automatically.
4	SENSOR PRESSURE S/W ERROR	PE	The sensor pressure switch is out of order.
5	DOOR OPEN ERROR	PEN • In case of operating the reservation	
6	IMBALANCE ERROR	⊴ [3]	The appliance is tilted. Laundry is gatherd to one side.
7	HEATING ERROR	tE	The THERMISTOR is out of order.

	ERROR	SYMPTOM	CAUSE
8	OVER CURRENT ERROR	CE	• MAIN PWB ASSEMBLY is out of order ☐ Replace the MAIN PWB ASSEMBLY • Winding in the STATOR ASSEMBLY is short-circuited. ☐ Replace the STATOR ASSEMBLY • "¿E" is dispplayed during a high spin ☐ Replace the LEAD WIRE ASSEMBLY (MOTOR)
9	LOCKED MOTOR ERROR	LE	The connector in the LEAD WIRE ASSEMBLY is not connected to the connector of STATOR ASSEMBLY Reconnect or repair the connector The hall sensor is out of order/defective. Replace the STATOR ASSEMBLY
10		AE	Water leaks
11	POWER FAILURE	PF	The washer ecperienced a power failure

CD - can last up to 4 hours, CD (**washer/dryer only**) means the cloths have finished drying and you can switch the machine off even though CD is displayed. The door will release 2 minutes after that. If clothes come out wet then it means that customer has put more then half load in. In all washer dryers half load needs to be taken out.

The washing machine does wash and go straight to dry if you set it that way, this feature is there as it assumes you have put a half load in and you want to do a wash and dry.

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If you press the Start/Pause button when an error in displayed, any error except PE will disappear and the machine will change into pause status.

In case of PE, EE, dE, if the error is not resolved within 20 sec. In the case of other errors, if the error is not resolved within 4 min., power will be turned off automatically and the error only will be blinked. But in the case of EE, power will not be turned off.

ERROR	SYMPTOM	CAUSE
WATER INLET ERROR	; <u>E</u>	O Water has not reached to the pre-set level within 8 min. since inlet valve operated, or water has not reached to the normal level within 25 min.
IMBALANCE ERROR	UE	 Load is too small. The appliance is tilted. Laundry is gathered to one side. Non-distributable things are put into the drum.
DRAIN ERROR	<u> </u>	O Water has not drained enough within 10 min.
OVERFLOW ERROR	FE	Water is automatically being pumped out because too much water is in the tub.
SENSOR PRESSURE S/W ERROR	FE	O The sensor pressure switch is out of order.
DOOR OPEN ERROR	SE	 The Start/Pause button is pressed with the door open. The door switch is out of order.
HEATING ERROR	E E	○ The THERMISTOR is out of order.

ERROR	SYMPTOM	CAUSE
OVER CURRENT ERROR	[E	MAIN PWB ASSEMBLY is out of order. Winding in the STATOR ASSEMBLY is short-circuited.
LOCKED MOTOR ERROR	LE	The connector (3-pin, male, white) in the MOTOR HARNESS is not connected to the connector (3-pin, female, white) of STATOR ASSEMBLY. The electric contact between the connectors (3-pin, male, white) in the MOTOR HARNESS and 4-pin, female, white connector in the MAIN PWB ASSEMBLY is bad or unstable. The MOTOR HARNESS between the STATOR ASSEMBLY and MAIN PWB ASSEMBLY is cut (open circuited).
BALL SENSOR ERROR	BE	Loose Ball Sensor Connector. Ball Sensor is out of order. Displayed only when the START/PAUSE button is first pressed in the QC Test Mode.
EEPROM ERROR	EE	EEPROM is out of order. Displayed only when the START/PAUSE button is first pressed in the QC Test Mode.
POWER FAILURE	FF	•The washer experienced a power failure.
DRY HEATER ERROR	GHE	Dry heater faulty. Dry fan failure. Blocked duct.
COOLING DOWN	cd	Cooling down cycle
AQUA LOCK	(AE)	Water leakage.
SENSOR ERROR	SE	Wire harness fault. Hall sensor fault. Main PWB assembly (PCB) fault.

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QC Test Mode

7-2. LOAD TEST MODE





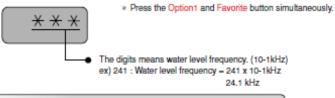
- 2 The washer must be empty and the controls must be in the off state.
- 3 Press Power with above two buttons pressed and then buzzer will sound.
- 4 Press the Start/Pause button repeatedly to cycle through the test modes

Number of times the Start/Pause button is pressed	Check Point	Display Status	
None	Turns on all lamps and locks the door.	QC TEST MODE	
1 time	Tumble clockwise.	rpm (42~50)	
2 times	Low speed Spin.	rpm (55~65)	
3 times	High speed Spin.	rpm (125~155)	
4 times	Inlet valve for prewash turns on.	Water level frequency (25~65)	
5 times	Inlet valve for main wash turns on.	Water level frequency (25~65)	
6 times	Inlet valve for hot water turns on.	Water level frequency (25~65)	
7 times	Inlet valve for steam turns on.	Water level frequency (25~65)	
9 times	Tumble counterclockwise.	rpm (42~50)	
10 times	Heater tums on for 3 sec.	Water temperature	
11 times	Circulation pump tums on.	Water level frequency (25~65)	
12 times	Drain pump turns on.	Water level frequency (25~65)	
13 times	Water level Sensor for Steam	Water level frequency of TSG (0~255)	
14 times	Steam Heater turns on for 1.2 sec.	TSG temperature	
15 times	Off	-	

Some machines require: pressing of Option (left), Rinse and power to enter test mode

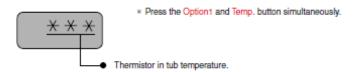


7-3. HOW TO CHECK THE WATER LEVEL FREQUENCY





7-4. HOW TO CHECK THE TEMPERATURE OF EACH THERMISTOR AT OPERATING CONDITION.





Some machines require the following to Check water level frequency

*Tomor Certification Control Spatients
Their Certification Control Spa

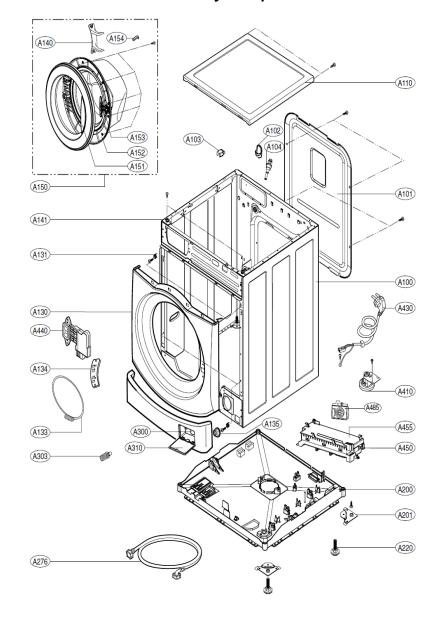
Press the Intensive and Option(Left) button simultaneously.

The digits means water level frequency (10⁻¹kHz)

ex) 241: Water level frequency = 241× 10⁻¹kHz

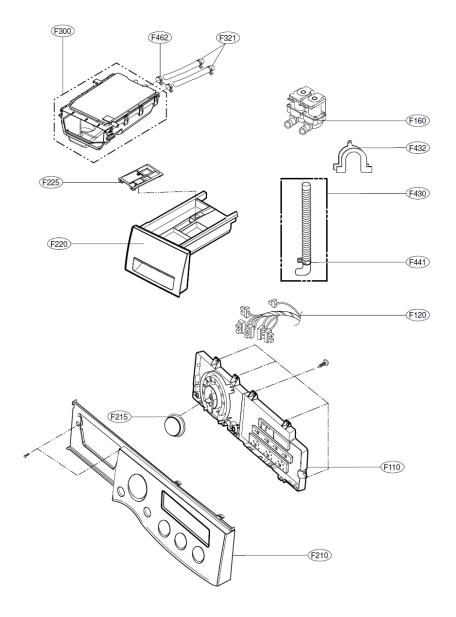
=24.1kHz

Cabinet Assembly Exploded View

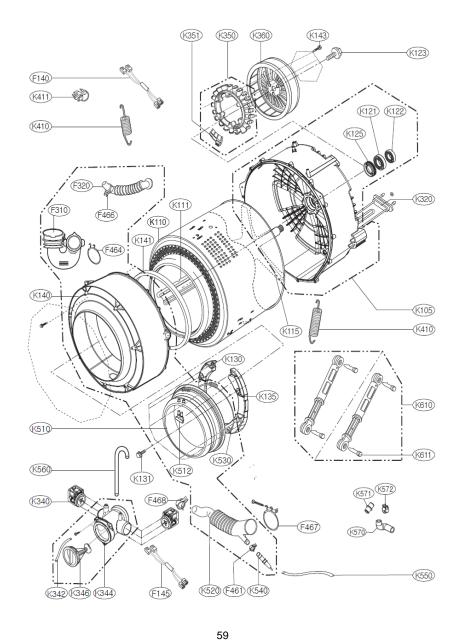


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Control Panel & Dispenser **Exploded View**



Drum & Tub Assembly Exploded View



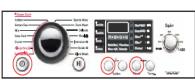
Steam Washer



QC Test Mode

7-1, BEFORE SVC CHECKING

- Before servicing ask the customer what the trouble is.
- ② Check the adjustments. (Power supply :220-240V~, Removal of transit bolts etc..)
- 3 Check the troubles referring to the troubleshooting.
- Decide service steps referring to disassembly instructions.
- Then, service and repair.
- 6 After servicing, operate the appliance to see whether it works OK or NOT.

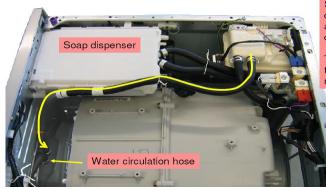


7-2, LOAD TEST MODE

- Press and Hold Option (Left) ' & Rinse' buttons and then press Power' button.
- The washer must be empty and the controls must be in the off state.
- 3 Press Power with above two buttons pressed and then buzzer will sound.
- Press the Start/Pause button repeatedly to cycle through the test modes

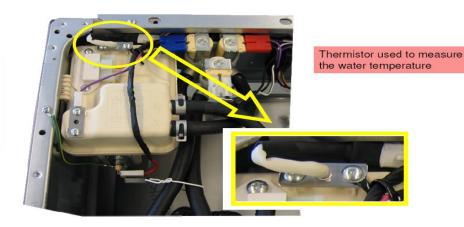
Number of times the Start/Pause button is pressed	Check Point	Display Status
None	Turns on all lamps and locks the doo	QC TEST MODE
1 time	Tumble clockwise,	rpm (42~50)
2 times	Low speed Spin.	rpm (55~65)
3 times	High speed Spin.	rpm (125~155)
4 times	Inlet valve for prewash turns on,	Water level frequency (25~65)
5 times	Inlet valve for main wash turns on,	Water level frequency (25~65)
6 times	Inlet valve for hot water turns on,	Water level frequency (25~65)
7 times	Inlet valve for steam turns on,	Water level frequency (25~65)
8 times	Inlet valve for bleach turns on.	Water level frequency (25~65)
9 times	Heater turns on for 3 sec.	Water temperature
10 times	Circulation pump turns on,	Water level frequency (25~65)
11 times	Drain pump turns on,	Water level frequency (25~65)
12 times	Water level Sensor for Steam	Water level frequency of TSG (0~255
13 times	Steam Heater turns on for 1,2 sec.	TSG temperature
14 times	Off	-

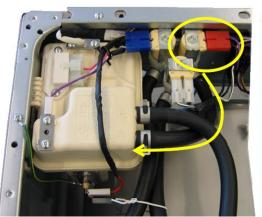
How Steam Works



Steam is injected into the drum via a nozzle located at the front top of the drum.

The nozzle is located next to the water circulation nozzle.

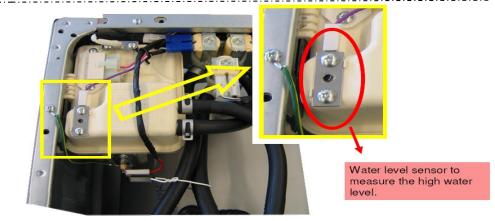




The steam Washing Machine has an additional Water valve to control water input into the steam generator.

When the water level has reached its minimum level, the valve is opened and water will flow into the steamer, until the maximum level has been reached.

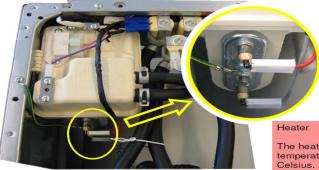
The minimum water level is detected by measuring a resistance change between two electrodes. You can see those



Two of the three sensors are used to detect the low water level. The third (short) one is not used.

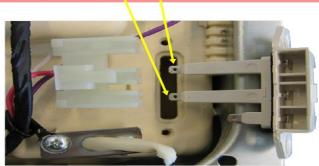
The water level detection is based on a resistance change/difference.

The water level detection is based on a resistance change/difference between the electrodes in water and air.



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The heater increases the water temperature up to 104 degrees Celsius. It has a built in thermal fuse to protect against overheating.



To pressure and

To water circulation

Disassembly

* Disassemble and repair the parts after pulling out power cord from the outlet.

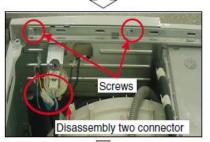
CONTROL PANEL



- 1 Unscrew the screws on the top plate.
- 2 The plate assembly(Top) is pulled back and then upward to arrow direction.
- 3 The cover(Inner) is disassembled.



- Pull out the drawer and unscrew 2 screws.
- 2 Lift the side the Control Panel Assembly and pull it out

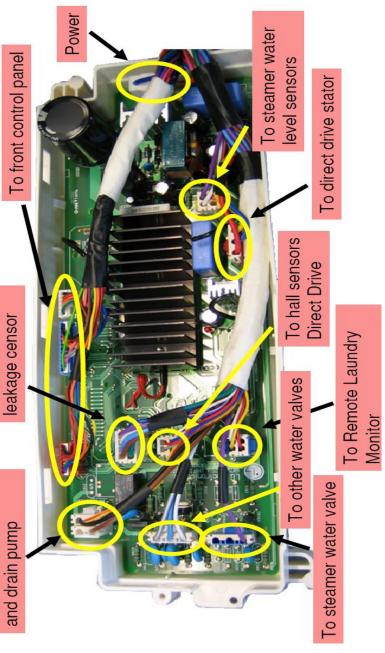


- Two screws is unscrewed.
- 2 Push out PANEL ASSEMBLY, CONTROL after Push the hook below.



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- 1 The PWB assembly(Display) is disconnected.
- 2 When 7 screws are unscrewed on the PWB insulator and the PWB assembly(Display) is disassembled from the PWB insulator.



PWB ASSEMBLY(MAIN)



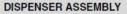
① Disassembly lower cover assembly.

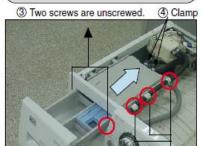


② Disammembly MAIN PWB ASSEMBLY.



- 3 Disconnect the wiring connector.
- The cover of PWB assembly(main) is First. Press hook and turn the safety switch removed.
- (5) Disconnect connector from the wiring.



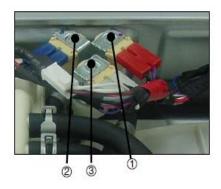


2 Pull the drawer to arrow direction.

- 1 The plate assembly(Top) are disassembled.
- 2 Pull the drawer to arrow direction.
- ③ Two screws are unscrewed.
- 4 Clamp
- (5) Cutting cable ties and the ventillation hose are disassembly on the dispenser
- (5) Cutting cable ties and the ventillation hose are disassembly on the dispenser

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INLET VALVE

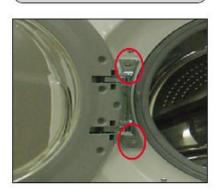


- 1 Disconnect the wiring connector.
- ② Remove the valve by two screws of the valve holder.
- # When reconnecting the connector

VALVE ① (STEAM)	VIOLET/BLACK-BLACK
VALVE@(PRE-WASH)	WHITE/BLACK-BLACK
VALVE③ (NORMAL-WASH)	GRAY/BLACK

• Rating : 220/240V 50/60Hz • Resistant : 3.5~4.5kΩ

DOOR



- 1 Open the door completely.
- 2 Remove the three screws from the hinge.
- When removing the Door Assembly, it is necessary to hold the Bracket that is inner of the Cabinet Cover.

Removing method of remained water

Pull it out from hose.

First, prepare a bucket to put in the remained water.



CAP(REMAING HOSE)

CABINET COVER

Two screws are unscrewed



Pull the drawer to arrow direction.



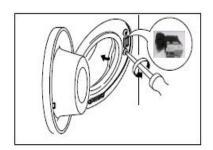
- 1 The plate assembly(Top) is disassembled.
- (2) Pull out the drawer and unscrew 2 screws.
- 3 Lift the side the Control Panel Assembly and pull it out
- (1) Two screws is unscrewed.
- 2 Push out PANEL ASSEMBLY, CONTROL after Push the hook(1,2) below.







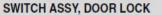




3 Unscrew the screw from the CABINET COVER.



- 4 Lift and separate the cabinet cover.
 - * NOTE: When assembling the CABINET COVER, connect the Door S/W connector.



- 1 Two screws are unscrewed and disassembly cabinet cover.
- 2 The Door Lock S/W is disconnected form the wiring connector and the strap.

- · Just check cut-off.
- . Check the operating time.

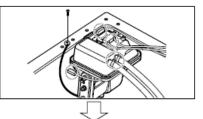


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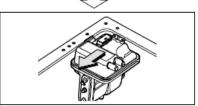
- Door Locking time: 1~8 sec. Check the time between from input the power to parts (1) move up, then Door locked.
- Door Releasing time: 25~100 sec. Check the time between from off the power to parts (1) move down, then Door released.



TSG (TURBO STEAM GENERATOR)



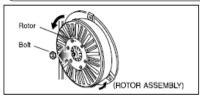
 Remove the housing coupled the TSG (Connector, Hoses, Earth Screw)



② Taking ou the screw of the TSG.

< Heater for STEAM> Rating: 230V 1000W Resistant : 42.5~49.5Ω

ROTOR ASSEMBLY, STATOR ASSEMBLY, FRICTION DAMPER



- Remove the back cover.
- ② After loosening the bolt, Rotor, pull out the rotor.





Friction

Damper

(Damper)

(FRICTION DAMPER)

- Remove the 6 bolt from the stator.
- ② Disconnect the 2 connectors.

Motor Stator



- - Common ~ Ha (5~15kΩ) Common ~ Hb (5~15kΩ)

Hall Sensor

Hb

- V ~ U (8~11Ω) • U ~ W (8~11Ω)
- W ~ V (8~11Ω)
- 1 Remove the hinges (Damper) at the Tub.
- 2 The Hinge(Damper) at the base is pulled off pressing on the snaps at the sharp end.
- 3 The hinge at the base is pulled off. (To arrow direction)

PUMP



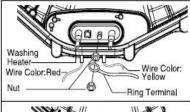


- ① Disassembly Top Plate, Control Panel Assembly, Drawer Panel Assembly, Cabinet Cover Assembly, Lower Cover Assembly.
- (2) Unscrew the screws from the Side cover(Left).
- (3) Lift and separate the Side(Left) cabinet cover.



- Bellows Circulation
- Remaining Hose
- 4 Remove pump outlet hose. (5) Remove tub pump bellows.
- 6 Remove cap(Remaining Hose).
- ⑦ Disconnect the wiring.
- Three screws are unscrewed from the cabinet.
- Remove the pump to arrow direction.
 - Rating: 220/240V 50Hz Resistant : 162~176Ω

HEATER





- 1 Loosen the nut.
- 2 Remove washing heater by pulling out.
 - < Heater for Washing>
 - Rating: 230V 2000W
 - Resistant : 24.5~28.5Ω

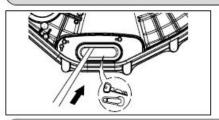
CAUTION

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When assembling the washing heater, insert the heater to heater clip on the bottom of tub and check the position of wire color.

Cabinet Assembly Exploded View

WHEN FOREIGN OBJECT STUCK BETWEEN DRUM AND TUB



- 1 Remove washing heater.
- ② Remove the foreign object(wire,coin,etc) by inserting long bar in the hole.

SWITCH ASSEMBLY, SAFETY



1 Disassembly lower cover assembly.



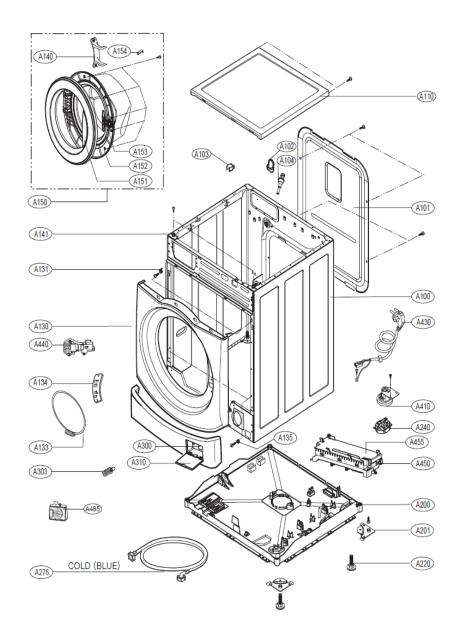
2 Disassembly MAIN PWB ASSEMBLY



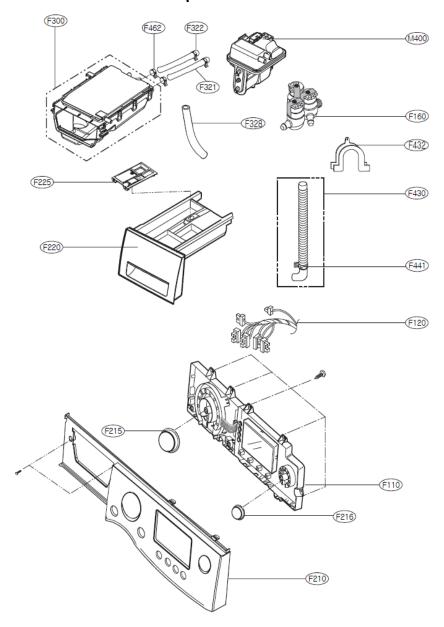
③ Disconnect the wiring connector. Fist, Press hook and turn the safety switch assembly switch assembly safety.



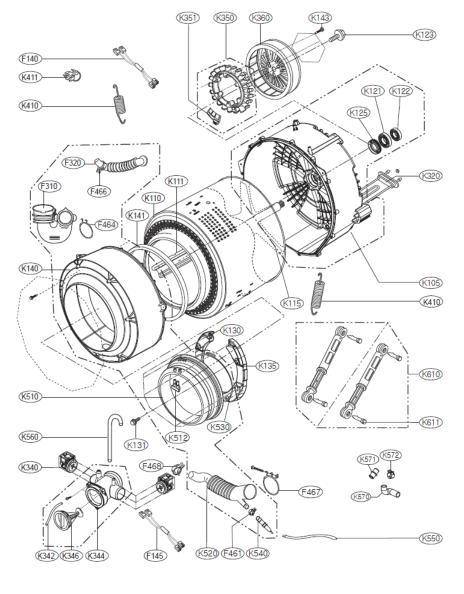
4 Unscrew one screw from the base.



Control Panel & Dispenser Exploded View



Control Panel, Dispenser & Steam Generator Exploded View

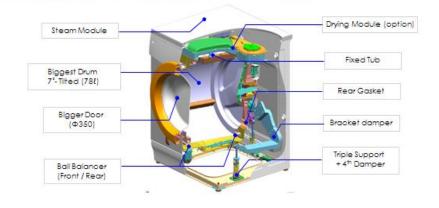


11kg Fixed Tub Washing Machine



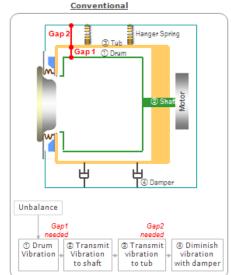
Specification & Parts Identification

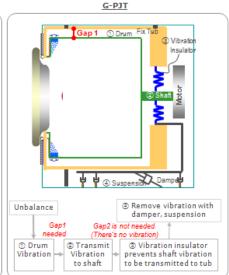
World Largest Capacity in 24" full size Drum Washer Development



Cabinet Size (W*H*D): 600*840*658

Innovation lies in the fixed tub.





Conventional dampers



New LG 11 kg Suspension system



Dual ball balancers

Dual ball balance system helps to offset the unbalanced loads in drum which produces vibration and noise. It makes the washer run more smoothly, even if there is an unbalanced loads.

[Concept]





"Entire system is Well-Balanced"

4 stage vibration Damping System

Stage 1

Dual Ball Balancer



Stage 3

Damping System



Stage 2
Vibration Insulator



Stage 4
Vibration Sensor



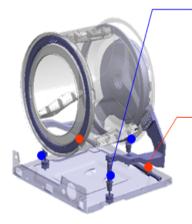
Vibration Insulator

Vibration insulator helps to transmit the vibration from shaft to tub. The reason it is made of rubber is that:

- 1. Not to solid vibration
- 2. It should be flexible
- 3. It should be sealing



Contrary to conventional washing machine which have 2 or 4 dampers, LG G system has 3 suspensions and 2 damper. Totally 5 vibration reducing system.



Suspension (Shock absorber + Spring)

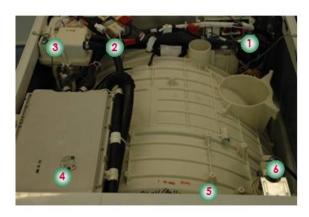
- The suspension is for not only absorbing shock, but also reducing vibration.
- It is same theory with the suspension in the car.
 The suspension makes the car comfortable to ride in.

Damper (Shock absorber)

 The damper reduces vibration especially diagonal vibration in the G system.

When the **Top panel** is removed, we can provide service to:

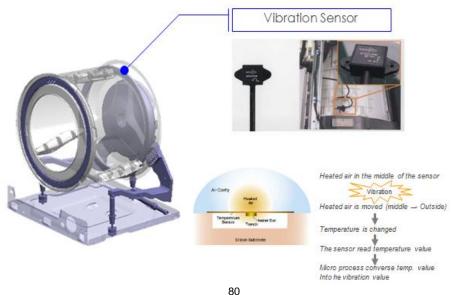
- 1. Power filter
- 2. Inlet valves
- 3. Steam generator
- 4. Dispenser tray
- 5. Display assembly
- 6. Pressure switch

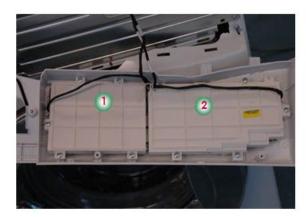


When the Display panel is removed,

we can provide service to:

- 1. Program PCB
- 2. Display PCB





When the **Lower front cover** is removed, we can provide service to:

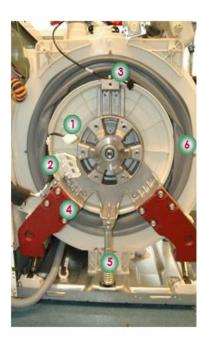
- Main PCB (This needs to be taken out for the next items)
- 2. Leakage detector
- 3. Heater
- 4. Thermistor
- 5. Drain pump
- 6. Circulation pump



When the **Back panel** is removed, we can provide service to:

- Direct Drive motor (This needs to be taken off for the next items)
- 2. Hall sensor
- 3. Vibration sensor
- 4. Support brackets
- 5. Reardamper
- 6. Reargasket

Note: The back panel can only be removed when the steam generator and inlet valves are detached from the panel, and the drain hose has been given way.



When the **Cabinet front** is removed, we can provide service to:

- 1. Front gasket
- 2. Dispenser hoses
- 3. Steam hose
- 4. Circulation hose
- 5. Doorswitch

Note: The Front gasket is hooked on the inside to the Tub, carefully take it off.





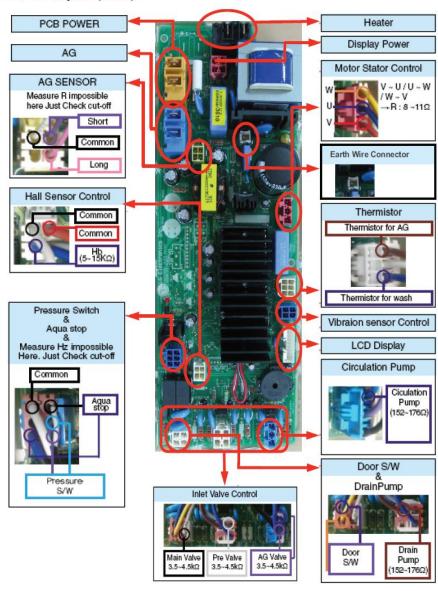
When the **Side panel** is removed, we can provide service to:

- 1. Side dampers
- 2. Side damper support



QC Test Mode

■ PCB Layout (Main)



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7-1. BEFORE SVC CHECKING

- Before servicing ask the customer what the trouble is.
- ② Check the adjustments. (Power supply :220-240V~, Removal of transit bolts etc..)
- 3 Check the troubles referring to the troubleshooting.
- 4 Decide service steps referring to disassembly instructions.
- (5) Then, service and repair.
- (6) After servicing, operate the appliance to see whether it works OK or NOT.



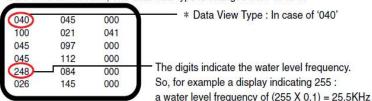
7-2. LOAD TEST MODE

- 1 Press and Hold 'Option (Right)' & 'Rinse' buttons and then press 'Power' button.
- (2) The washer must be empty and the controls must be in the off state.
- 3 Press Power with above two buttons pressed and then buzzer will sound.
- (4) Press the Start/Pause button repeatedly to cycle through the test modes

Number of times the Start/Pause button is pressed	Chec	k Point	Display Status	
None	Turns on all lamps	and locks the door.	QC TEST MODE	
1 time	Tumble clockwise		rpm (42~50)	
2 times	Low speed Spin.		rpm (60)	
3 times	High speed Spin.		rpm (130~140)	
4 times	Inlet valve for prev	vash turns on.	Water level frequency	
5 times	Inlet valve for main	n wash turns on.	Water level frequency	
6 times	Inlet valve for hot	water turns on.	Water level frequency	
7 times	Inlet valve for stea	ım turns on.	Water level frequency	
8 times	Turmble counter of	lockwise	rpm	
9 times	Heater turns on fo	r 3 sec.	Water temperature	
10 times	Circulation pump t	turns on.	Water level frequency	
11 times	Drain pump turns	on.	Water level frequency	
12 times	Water level	Sw 2,3 open		
12 111100	Sensor for Steam	Sw 2,3 op		
13 times	Steam Heater turns on for 1.2 sec.		AG Temperature	
14 times	Off		-	

7-3. HOW TO CHECK THE WATER LEVEL FREQUENCY

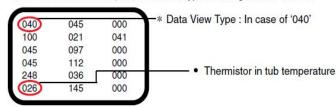
Press the Temp. and Pre wash button simultaneously. If the knob turn around, The data view type is changed from 40 to 49





7-4. HOW TO KNOW TO TEMPERATURE OF EACH THERMISTOR AT OPERATING CONDITION.

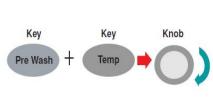
Press the Temp. and Pre wash button simultaneously. If the knob turn around, The data view type is changed from 40 to 49





7-5 HOW TO CHECK THE VIBRATION SENSOR





Display Data View Mode 1)043 Vib Sensor XXX Y-axis 01 XXX Vib Sensor XXX Y-axis 02 XXX XXX XXX XXX XXX XXX 3)XXX 2)Vib Sensor XXX X-axis 01 Vib Sensor XXX XXX X-axis 02

Reference of checking the vibration sensor error

- Range of vibraiton sensor data have to change between 1900 and 2100 in stopping the motor.
- When the washer is spining, if the vibration sensor data doesn't change and keeps the static value, we need to suspect disconnection or noise effect.
- In case of over-range, we also need to check the status of vibration sensor.
- Data View Type: Press and Hold Pre Wash and Temp key simultaneously, and then turn around the knob until it display '043'.
- 2) Vibration Sensor Data = Vib_Sensor X-axis_01 x 100 + Vib_Sensor X-axis_02
- 3) Vibration Sensor status: If it display '000', normal, '001' incorrect initial position of vibration sensor or offset error, 002 disconnection of vibration sensor.

Disassembly

SWITCH ASSEMBLY, SAFETY



1. Disassemble lower case assembly.



2. Disassemble of main PWB assembly.



 Disconnect the wiring connector.
 First, press hook and turn the safety, switch assembly, switch assembly safety.

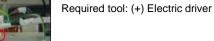


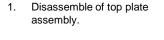
Unscrew from the base.

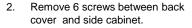


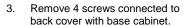
Cablinet Back Disassembly

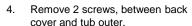


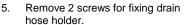


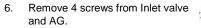


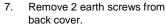


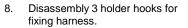






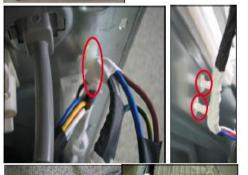






Disassemble the red connector on the noise filter.

10. Pull out drain house from the back cover.





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Rear Gasket

Needed tools :12,13 mm wrench, (¬) Clamp Jig, Cable Tie, (+) Electric driver











- 1. Disassemble of top plate assembly.
- Disassemble back cover .
- Remove the large and small rear gasket clamp buy using the clamp jig.
- 4. Unscrew the rear suspension nut.
- Unscrew the bolt between the bearing housing and rear suspension.
- Disassemble the rear suspension.
- 7. Remove 8 screws, on both weight brackets.
- 8. Disassemble rear gasket.

Front Gasket

Needed tools : (¬) Clamp Jig, (+) Electric driver













- 1. Disassemble of top plate assembly.
- 2. Disassemble control panel assembly.
- Disassemble lower cover.
- 4. Disassemble cabinet cover.
- 5. Disassemble front gasket clamp by using clamp jig.
- Take out gasket hole parts from the hook of the tub cover (direction of:11:00, 9:00, 7:00, 6:00, 5:00, 3:00 and 1:00 o'clock).
- 7. Take out front gasket upper rib in dry duct hole of tub cover.
- . Disassemble front gasket.

Friction Damper (Right side)

Needed tools: Damper pin Jig, long nose, (+) Electric driver







- 1. Disassemble the right side of the cabinet.
- 2. Remove 2 damper pins from the damper bracket and base holder.
- 3. Disassemble friction damper.

Damper Bracket (Right side)



Required tool: 12,13mm Spanner (+) Electric driver

- 1. Disassemble the top plate assembly.
- 2. Remove 8 screws, right side of back cover.
- 3. Disassemble control panel assembly.
- 4. Disassemble lower cover.
- Disassemble cabinet cover.
- Remove the earth screw on the right side of the cabinet.

Suspension (Right side)

Needed tools:12,13 mm wrench, (+) Electric driver







- 1. The Disassemble the right side of the cabinet.
- 2. Disassemble a nut (Suspension Base Cabinet).
- 3. Remove suspension bolt.
- 4. Disassemble suspension.



Bracket (Right)

1.Remove 4 screws on the damper bracket.

2.Disassembly of damper bracket.

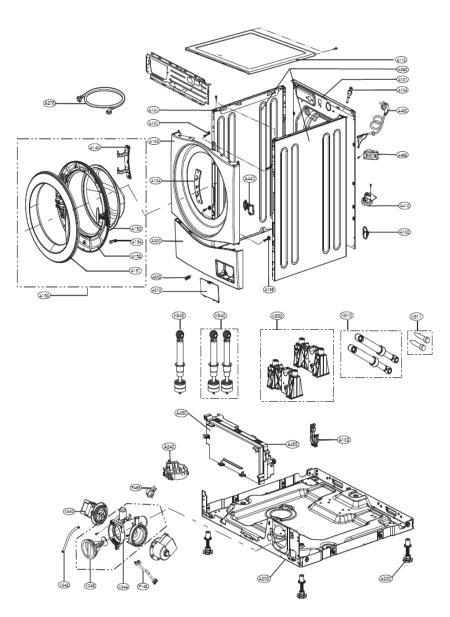
Cabinet Assembly Exploded View

Vibration Sensor

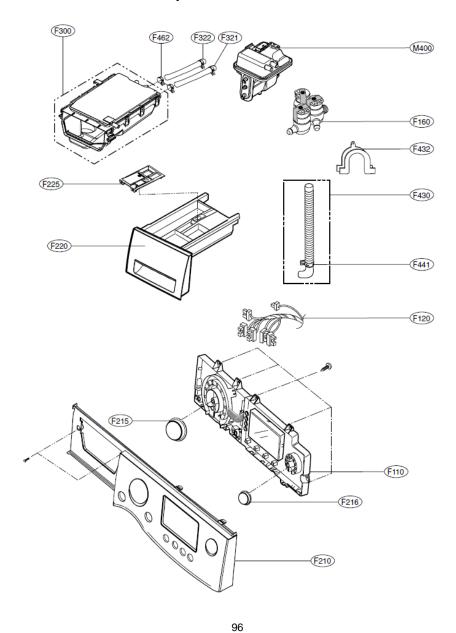


Required tools: Nipper, Cable tie, (+) Electric driver

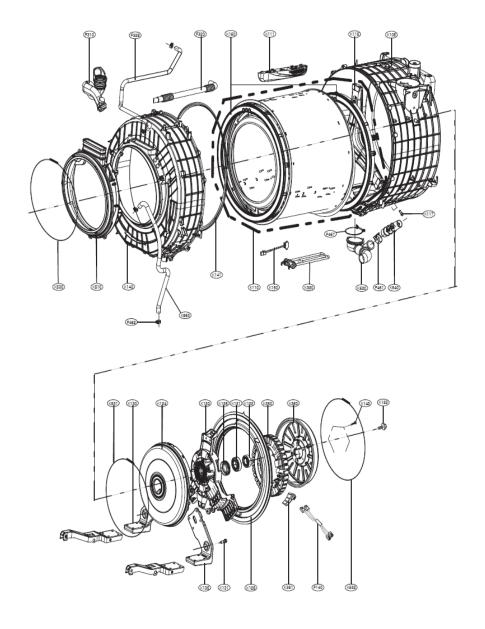
- 1. The back cover is disassembled.
- 2. Remove the cable tie.
- 3. Disassemble vibration sensor assembly.



Control Panel & Dispenser Exploded View



Drum & Tub Assembly Exploded View

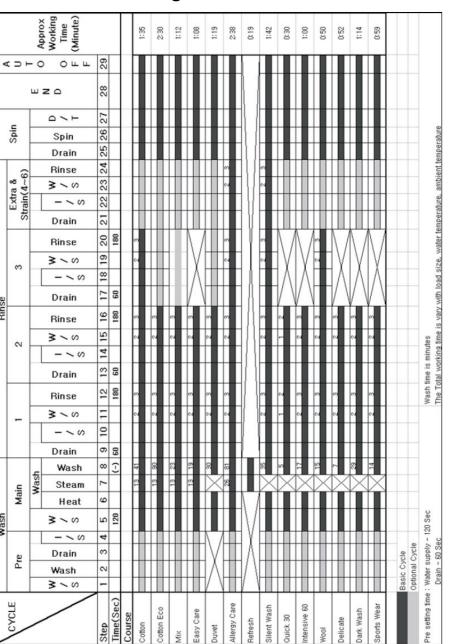


Fixed Tub Stream Washer Dryer



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Program Chart



QC Test Mode

7-1. BEFORE SVC CHECKING

- Before servicing ask the customer what the trouble is.
- (2) Check the adjustments. (Power supply :220-240V~, Removal of transit bolts etc..)
- 3 Check the troubles referring to the troubleshooting.
- 4 Decide service steps referring to disassembly instructions.
- ⑤ Then, service and repair.
- 6 After servicing, operate the appliance to see whether it works OK or NOT.



7-2. LOAD TEST MODE

- Press and Hold 'Option (Right)' & 'Rinse' buttons and then press 'Power' button.
- ② The washer must be empty and the controls must be in the off state.
- ③ Press Power with above two buttons pressed and then buzzer will sound.
- Press the Start/Pause button repeatedly to cycle through the test modes

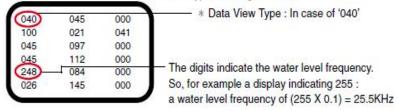
Number of times the Start/Pause button is pressed	Chec	k Point	Display Status	
None	Turns on all lamps	and locks the door.	QC TEST MODE	
1 time	Tumble clockwise		rpm (42~50)	
2 times	Low speed Spin.		rpm (60)	
3 times	High speed Spin.		rpm (140)	
4 times	Inlet valve for prev	vash turns on.	Water level frequency	
5 times	Inlet valve for mai	n wash turns on.	Water level frequency	
6 times	Inlet valve for hot	water turns on.	Water level frequency	
7 times	Inlet valve for blea	ch tums on.	Water level frequency	
8 times	Inlet valve for stea	ım turns on.	Water level frequency	
9 times	Turmble counter of	lockwise	rpm	
10 times	Heater turns on fo	r 3 sec.	Water temperature	
11 times	Circulation pump t	turns on.	Water level frequency	
12 times	Drain pump turns	on.	Water level frequency	
13 times	Water level	Sw 2,3 open		
To unies	Sensor for Steam	Sw 2,3 op		
14 times	Steam Heater tums on for 1.2 sec.		AG Temperature	
15 times	Off		-	

100

7-3. HOW TO CHECK THE WATER LEVEL FREQUENCY

Press the Temp and Pre wash button simultaneously.

If the knob turn around, The data view type is changed from 40 to 49

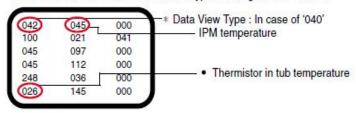




7-4. HOW TO KNOW TO TEMPERATURE OF EACH THERMISTOR AT OPERATING CONDITION.

Press the Temp and Pre wash button simultaneously.

If the knob turn around, The data view type is changed from 40 to 49

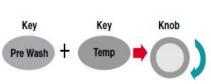




Cabinet Assembly Exploded View

7-5 HOW TO CHECK THE VIBRATION SENSOR

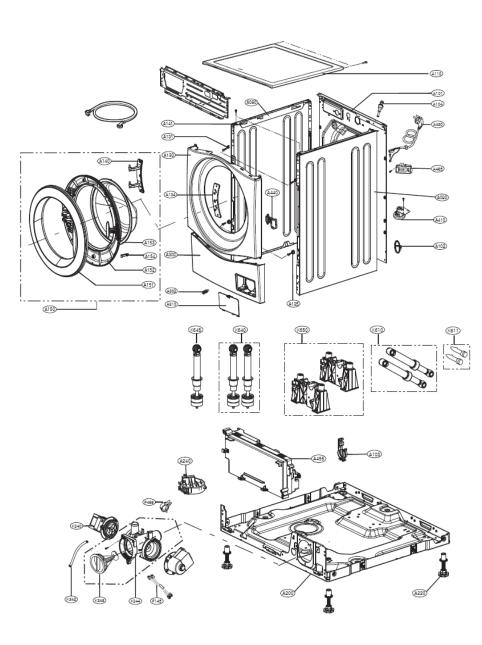




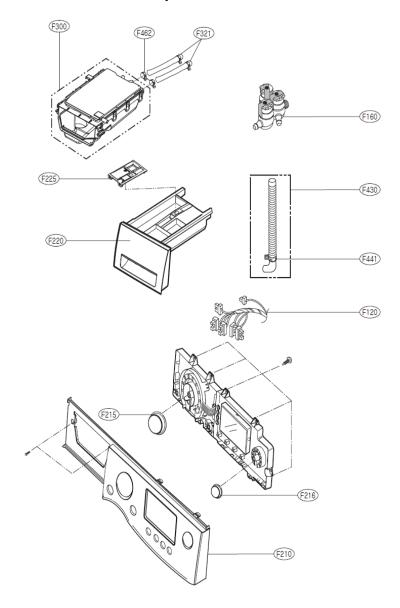
Display Data	View Mode	
1)043	Vib_Sensor Y-axis_01	XXX
XXX	Vib_Sensor Y-axis_02	XXX
XXX	XXX	XXX
XXX	XXX	XXX
²⁾ Vib_Sensor X-axis_01	XXX	3)XXX
Vib_Sensor X-axis_02	XXX	XXX

Reference of checking the vibration sensor error

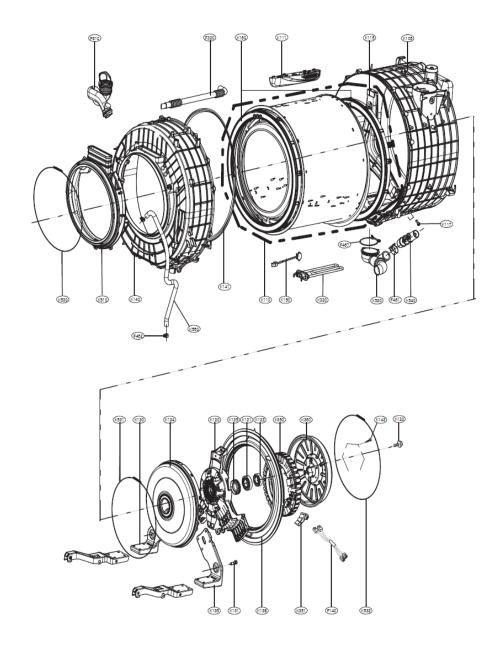
- Range of vibraiton sensor data have to change between 1900 and 2100 in stopping the motor.
- When the washer is spining, if the vibration sensor data doesn't change and keeps the static value, we need to suspect disconnection or noise effect.
- In case of over-range, we also need to check the status of vibration sensor.
- Data View Type: Press and Hold Pre Wash and Temp key simultaneously, and then turn around the knob until it display '043'.
- 2) Vibration Sensor Data = Vib_Sensor X-axis_01 x 100 + Vib_Sensor X-axis_02
- Vibration Sensor status: If it display '000', normal, '001' incorrect initial position of vibration sensor or offset error, 002 disconnection of vibration sensor.



Control Panel & Dispenser Exploded View

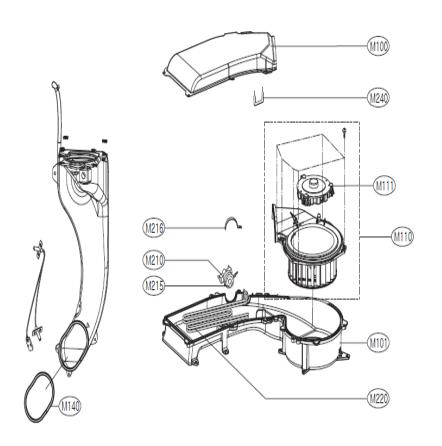


Drum & Tub Assembly Exploded View



Dryer Duct Assembly Exploded View

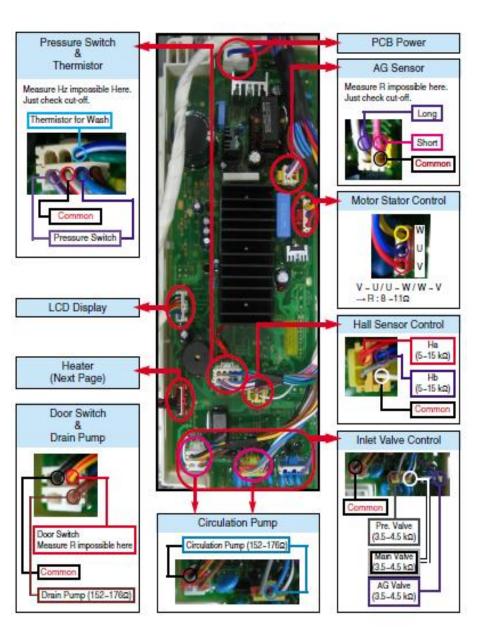
Washer Dryer

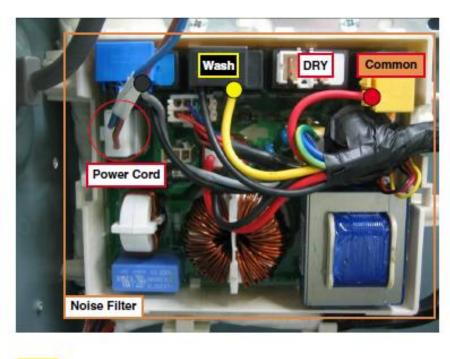




Main PCB Layout

Power PCB Layout





Wash

Resistance : 24.5 - 28.5 Ω

DRY

Only For Dry Combo

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		0 < 1	Ι	27	180	П		П	Γ	Π		П			П				NΙ	
	툸	Spin		28	480	П		П	Γ	Π		П			П				NΙ	
L		Drain		25	69	П		П	Ι	Π		П			П				М	
П		Rinse		24	180	П		П	Ι	Π	I	П			Ш	Ш			Ш	П
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	8	Dra	in	21	69	П		П	Ι	Π	I	П			Ш	Ш			И	N
	П	Rinse		20	180	П		П	Γ	Π	Ι	П			П	Ш			Н	١M
	m	3 . (00	19	120	П		П	Γ	Π		П				П			١٨	М
	65		S	18	180	П		П	Γ	Π		П				П			۱И	М
Rinse		Dra	in	17	60	П		П	Γ	Π		П			ПС	П			Ш	W
ĕ		Rinse		16	180	П		П	Γ	Π		П			ПГ				Ш	W
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	2		. 10	14	180	П		П	Г	Π		П	П		ПГ	П			I۱	W
		Dra	in	13	60	П		П	Г	П	Г	П	П	П	ПГ	П	П	П	I۱	Ш
	П	Rinse		12	180	П		П	Г	П	ı	П	П		П	П	П	П	П	М
		3 √	100	11	120	П		П	Г	П	ı	П	П		П	П	П	П		M
	*		. 100	10	180	П		П	I	П	ı	П	П	П	П	П		П	П	М
		Dra	in	6	09	П		П	I	П	Ī	П	П				N /			Ш
П	Main	Wash No.	sh	8	Ĵ	45	67	45	Q	45	62		П			Č.	I\/		2	Ш
	×	≸ He	at	9		П		П	I	Π		П	П		П	П	I۷			Ш
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Wash			. 100	4	180	П		П	Ī	П	Ī	١			П	1	١٨			11
	2	Dra	in	3	8	П		П	ľ	П	Ī	١	/		Ш	I۷	۱/۱		П	ľ
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		≥ √	00	ŧ	69	П			I	П		/	١		Ш	٧ ١				
CYCLE		10	000) ×	S TIME		Cotton		Synthetic	Cotton	Quíck	Dofinate	CONTRACTOR OF THE PARTY OF THE	Hand Wash	Wool	Quick 30	Rinse+Spin	Baby Care	Wash	Spin

7-1. BEFORE SVC CHECKING

- Before servicing ask the customer what the trouble is.
- Check the adjustments. (Power supply: 240V~, Removal of transit bolts etc..)
- Check the troubles referring to the troubleshooting.
- 4 Decide service steps referring to disassembly instructions.
- 5 Then, service and repair.

will vary with the load size

6 After servicing, operate the appliance to see whether it works OK or NOT.

7-2. LOAD TEST MODE

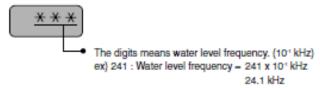
- Service Mann No. 10 Servic
- ① Press and Hold 'Option (Left)' & 'Rinse' buttons and then press 'Power' button.
- The washer must be empty and the controls must be in the off state.
- ③ Press Power with above two buttons pressed and then buzzer will sound.
- Press the Start/Pause button repeatedly to cycle through the test modes

Number of times the Start/Pause button is pressed	Check Point	Display Status
None	Turns on all lamps and locks the door.	QC TEST MODE
1 time	Tumble clockwise.	rpm (42~50)
2 times	Low speed Spin.	rpm (55~65)
3 times	High speed Spin.	rpm (125~155)
4 times	Inlet valve for prewash turns on.	Water level frequency (25~65)
5 times	Inlet valve for main wash turns on.	Water level frequency (25~65)
6 times	Inlet valve for hot water turns on.	Water level frequency (25~65)
7 times	Inlet valve for bleach turns on.	Water level frequency (25~65)
8 times	Tumble counterclockwise.	rpm (42~50)
9 times	Heater turns on for 3 sec.	Water temperature
10 times	Circulation pump turns on.	Water level frequency (25~65)
11 times	Drain pump turns on.	Water level frequency (25~65)
12 times	Dry Fan / Dry Heater turn on.	Dry Fan 6min. / Dry Heater 5min.
13 times	Off	

Cabinet Assembly Exploded View

7-3. HOW TO CHECK THE WATER LEVEL FREQUENCY

* Press the Intensive and Option(Left) button simultaneously.



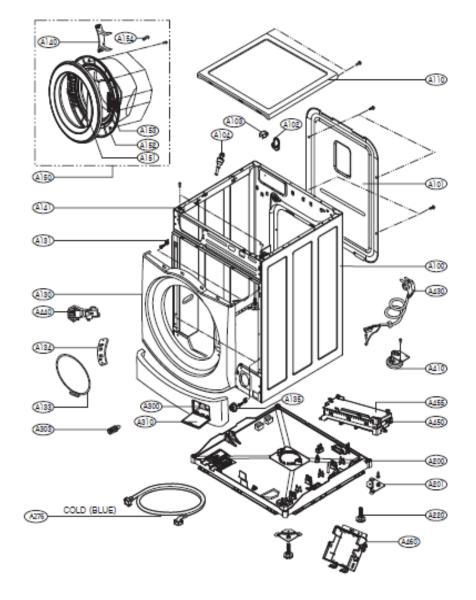


7-4. HOW TO KNOW TO TEMPERATURE OF EACH THERMISTOR AT OPERATING CONDITION.

* Press the Temp. and Option(Left) button simultaneously.

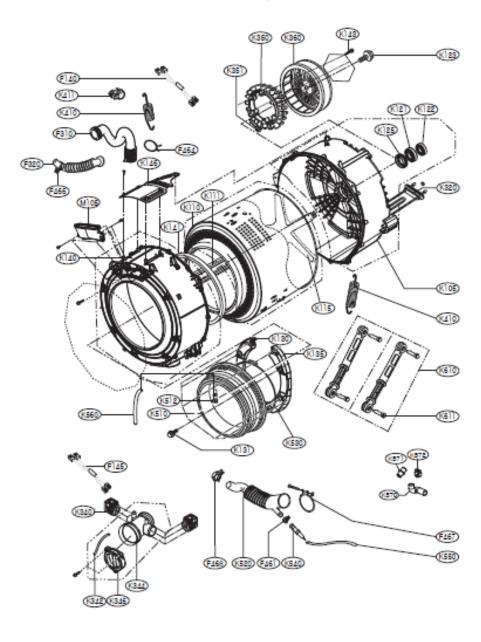






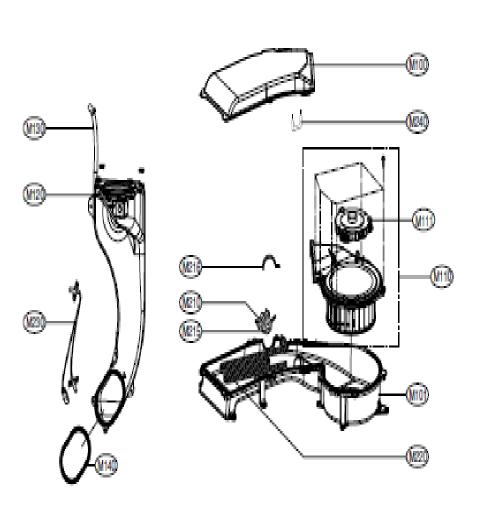
Control Panel & Dispenser Exploded View

Drum & Tub Assembly Exploded View



Dryer Assembly Exploded View

Top 50 Laundry Parts Used

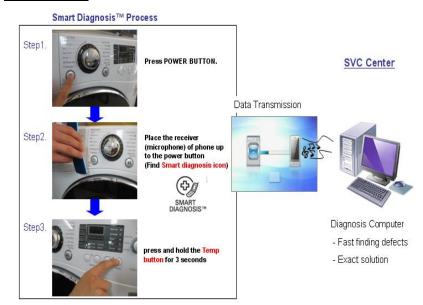


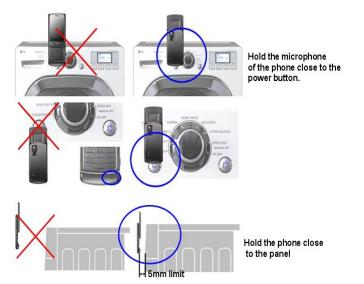
No	Parts No	Product	Item Description	Mapping Model Code
1	4925ER1002D	WM	Dispenser Assembly	F1402FDS
2	4681EA2001E	WM	Motor Assembly, AC, Pump	F14853WHS
3	4036ER2004A	WM	Gasket	F14853WHS
4	383EER3001G	WM	Parts Assembly	WD-14318FDK
5	EBR65873626	WM	PCB Assembly, Main	F1443KD
6	AEG33121503	WM	Heater Assembly	F14853WHS
7	MDS38265303	WM	Gasket	F1402FDS
8	3045ER1002A	WM	Tub Assembly, Drum (Inner)	WD-1465FD
9	4620ER4002B	WM	Stopper,Leg	WD-14370FD
10	3045ER0002A	WM	Tub Assembly,Outer	WD-1465FD
11	4774FR3118B	WM	Hinge	F14853WHS
12	4036ER4001A	WM	Gasket	F14853WHS
13	4901ER2003A	WM	Damper Assembly, Friction	F1402FDS
14	6601ER1001B	WM	Switch Assembly,Locker	WD-1465FD
15	MDS41955002	WM	Gasket	F14853WHS
16	4413ER1001D	WM	Rotor Assembly	F14853WHS
17	4417EA1002G	WM	Stator Assembly	F14853WHS
18	MFE38265101	WM	Lifter	F14853WHS
19	ACZ34745501	WM	Dispenser Assembly	F14853WHS
20	3108ER1001A	WM	Casing,Pump	F14853WHS
21	MDS38265301	WM	Gasket	F1403FDS
22	4986ER1005C	WM	Gasket	F1056QD1
23	4681EA2001A	WM	Motor Assembly, AC, Pump	F1402FDS
24	6601ER1001A	WM	Switch Assembly,Locker	WD-1465FD
25	4432EN2005A	WM	Lifter	F1402FDS

Smart Diagnostics

26	5220FR1251E	WM	Valve Assembly,Inlet	F1402FDS
27	3045ER0026D	WM	Tub Assembly,Outer	F14853WHS
28	4986ER1005A	WM	Gasket	F1402FDS
29	4986ER1006A	WM	Gasket	F1402FDS
30	1TTG0403218	WM	Screw,Tapping	F1403YD6
31	3650ER3002B	WM	Handle	F1402FDS
32	6871ER1081Q	WM	PCB Assembly, Main	F1402FDS
33	EBR52361602	WM	PCB Assembly, Main	F1247TD
34	4417EA1002D	WM	Stator Assembly	F1403FDS
35	5214FR3188G	WM	Hose,Pump	F14853WHS
36	6871ER1009F	WM	PCB Assembly, Main	F1402FDS
37	6871ER1081F	WM	PCB Assembly, Main	F1402FDS
38	MDS62012602	WM	Gasket	F1443KD
39	4681EA2002F	WM	Motor Assembly, AC, Pump	F1402FDS
40	6601ER1005A	WM	Switch Assembly,Locker	F1402FDS
41	4432ER1003A	WM	Lifter	WD-1465FD
42	5301ER1001B	WM	Heater Assembly	F1402FDS
43	MDS55242602	WM	Gasket	F14733WH
44	4986ER1003B	WM	Gasket	WD-16336FDK
45	6501KW2001A	WM	Sensor Assembly	F14853WHS
46	MFE57764501	WM	Lifter	DD147MWB
47	3212ER1004B	WM	Frame,Door(Inner)	WD-1465FD
48	4925ER1012A	WM	Dispenser Assembly	WD-12361TDK
49	4036EN4002A	WM	Gasket	F1402FDS
50	4400EL1001A	WM	Belt,Poly V	TD-C70044E

How to use:





Laundry FAQ

Example:



Sending sound by phone (Customer)



Receive the signal sound (CIC Center)



Analysis sound by computer (CIC Center)

Finds defects and Solutions



Agent books an engineer with all diagnostics details.



Q. Black or gray marks on clothes after washing.

A. There is a lack of service wash and/or under dosing of detergent

Q. Machine will not go to spin properly and is sticking on 9 or 12min.

A. The machine is not spinning as the machine will need more load balance out and spin. Also check the unit is level on a solid floor.

Q. Scraping metal sound during was cycle

A. check rear cover for dents or possible bra wire in the drum.

Q. Ripping clothes or swallowing small items of clothes in between the drum.

A. Gap between door seal and inner drum too big, replace door seal

Q. Clicking sound during wash and spinning cycle.

A. Check for loose or warn dampers and damper pins.

Q. Washer drier shutting down after approx 10min during drying cycle

A. check drier fan for obstacle and also clean condenser fully.

Q. Loud knocking sounds during fast spin.

A. Check for loose counter weight and tightened them.

Q. Bleep sound has disappear when selecting program and also when its finished.

A.A possible power cut can cause this, read operating manual how to switch bleep back on.

Q. Door seal lip ripped off.

A. Clothes were left hanging on door seal when door were shut. Advice customer to make sure the all clothes are pushed into the drum before shutting door.

Q. Machine turns on/off on its own during cycle or switching on while machine is not in use.

A. check for warped main PCB on the control panel. Fit a small washer on the screw on the Right hand side that is holding the PCB in place to straighten it out.

Condenser Dryer



Error Codes

HEATER ERROR	EHE	Heating element wet / short circuit
HEATER ERROR	ELE	Heating element wet / short circuit
BELT ERROR	<u>PE</u>	Broken belt. Micro switch open circuit
HEATING ERROR	LE1	Low temperature thermistor open circuit
HEATING ERROR	FE5	Low temperature thermistor short circuit
HEATING ERROR	EE3	High temperature thermistor open circuit
HEATING ERROR	<u>FEA</u>	High temperature thermistor short circuit
DOOR OPEN ERROR	dE	The [Start/Pause] button pressed with the door open. Door switch failure.



TROUBLESHOOTING

- This TEST should be used for Factory test/Service test. Do not use this DIAGNOSTICTEST other than specified.
- 2. Activating the Heater manually with Door open may trp the Thermostat attached to the Heater, therefore do not activate it manually, (Do not press the door switch to operate the heater while the door is open)

Activating the diagnostic test mode

- Unit must be in Standby (unit plugged in, display off)
 Press "POWER" while pressing "More time" and "Less time" simultaneously.

Pressing the "START/PAUSE"button	CHECKING ACTION	DISPLAY	CHECKING POINTS	
None	Electric control	(18:EU)	Check all leds for operation.	All the LED's on with buzzer.
Once	Motor	70~240 Measured Moisture Value	Motor run counterclockwise. Displays Moisture Sensor Operation: If moisture sensor is contacted with damp cloth. The display number is below 180, in normal condition.	Course LED's on.
Twice	Motor	70~240 Measured Moisture Value	Motor run clockwise. Displays Moisture Sensor Operation: If moisture sensor is contacted with damp cloth. The display number is below 180, in normal condition.	Only option Button LED's on.
3 times	Motor + Heater 1	Current temperature	Motor run clockwise. Heater run(Display the temperature of low temperature themistor located under door.)	LED's of Gentle and Quick option glitter.
4 times	Motor+Heater 1 +Heater 2	Current temperature	Motor run clockwise. Heater run(Display the temperature of high temperature thermistor located in heater assembly.)	LED's of Time Delay, Favorite, Anti-crease and Buzzer options glitter.
5 times	Motor off + Heater off Pump on	Water level in sump	Pump run	All the LED's of Sub- Jog dial (Drying Level) glitter.
6 times	Motor	70~240 Measured Moisture Value	Motor run clockwise. Displays Moisture Sensor Operation: If moisture sensor is contacted with damp cloth. The display number is below 180, in normal condition.	All the LED's on.
7 times	Motor off	000		All the LED's on / Off.
8 times	Control Off		Auto Off	

Data Display

- -Tested under normal operation mode.
- Press the button as follows.

No. of Button pressing	Display
More time + Time Delay	Moisture data
More time + Favourite	Temperature sensed by low temperature thermistor (located under door)
More time + Anti-Crease	Temperature sensed by High temperature thermistor (located in heater assembly)
More time + Drum Light	Remaining water data by water level sensor

TROUBLESHOOTING

Error Mode

- dE: LED displays "dE" in case of the door open. The door must be closed and start Button must be pressed for re-operation. (See the 22 page)
- EE 1, 2, 3: splay thermistor symptom.

Display	Symptom
tE 1	Low temperature thermistor open
tE 2	Low temperature thermistor short
tE3	High temperature thermistor open

Check point

- EE 1 : Check the main PCB red 4 pin housing not inserting Blue harness in red 4 pin (number 2, 4) Low temperature thermistor connector not inserting Main PCB Micom not soldering
- $\not\vdash \not\vdash
 otag$: Check the main PCB red 4 pin housing Short of Blue harness in Red 4 pin. Low temperature thermistor short: check the resitance(see 15 page) Main PCB Micom short → replace Main PCB
- FF7 : Check the white 8 pin housing (No. 3,4) in main PCB. And Check the high temperature thermistor connector in rear cover part. (blue wire)

COMPONENT TESTING TIPS

Component	Test procedure	Check result	Remark
1. Thermostat (Manual type)	Measure resistance of Terminal to terminal 1) Open at 170°C (-10/+5°C)	Measure resistance by pressing button When resistance becomes ∞ Resistance value < 5Ω	Safety Thermostat
2. Thermistor (Low temperature)	Measure resistance of terminal to terminal	Resistance value : 10KΩ±5% (at 25°C)	Cover, Front
3. Heater, Thermistor	Measure resistance of Terminal to terminal	Resistance value : Yellow/White : 28.96±1Ω Blue/White : 56.29±2Ω	
Thermistor	Measure resistance of therminal to terminal	Resistance value : 200KΩ±5% (at 25°C)	Heater
4. Motor	Measure resistance of Terminal to terminal	Resistance value(20°): Blue / White : 15.3($\pm 7\%$) Ω Red / White : 18.5($\pm 7\%$) Ω	
5. Capacitor	Measure capacitance of Terminal to terminal	Capacitance value : 10±0.2μF	
6. Pump	Measure resistance of Terminal to terminal	Resistance value(20°C): 210(±5%)Ω	

7

COMPONENT TESTING TIPS

Component	Test procedure	Check result	Remark
7. Door S/W	Measure resistance of the Following terminal 1) Door switch knob: open ①Terminal: "COM"- "NO" (1-3) ②Terminal: "COM"- "NO" (1-2) 2) Door switch push: Push ①Terminal: "COM"- "NC" (1-3) ②Terminal: "COM"- "NO" (1-2)	①Resistance value < 1Ω ②Resistance value ÷ ∞ ①Resistance value ÷ ∞ ②Resistance value < 1Ω	The state that knob is Pressed is opposite to open condition
8. Lamp holder	LED LAMP	DC 12V	

PROGRAM CYCLE



Time Delay

You can use the Time Delay function to delay the finishing time of drying cycle. Maximum Time Delay is 19 hours. Minimum Time Delay is 3 hours.

- 1. Turn the dryer on
- Select cycle
- 3. Set time delay hour
- 4. Press Start/Pause button

Favourite

If there is some cycle you would like to make based on your own drying habit, use "Favourite". Once favourite cycle is stored, you can repeatedly use next time before changing the stored setting. For instance, you turn power on and select Extra Dry in Cotton Cycle and Low temp and Anti-Crease in series and then lastly press "Favourite" until the dryer beeps. It's about 3 seconds. That's all you have to do.

The next time, when turning the dryer on and pressing "Favourite" you can see the above options you select displays on the panel.

Anti-Crease

Anti-Crease is functioning to prevent creases and rumples that are formed when the laundry is not unloaded promptly at the end of drying cycle. In this function, the dryer repeatedly runs and pauses to the cycle end.

If the door is open during Anti-Crease process, this function is cancelled.

Drum Light

During operating cycle, you can see the drum inside by choosing drum light function. It helps easy viewing the drying cycle.

More Time/Less Time

Press More Time or Less Time until the desired drying time is set.

Note

These buttons are available only with Timed Drying, before you push Start/Pause button.

Child Lock ([L)

For the safety of your children, press More Time and Less Time buttons at the same time for about 3 seconds. You can see " <code>[L]</code>" sign on LED window.

Note `

For " [L" off, press More Time and Less Time buttons at the same time for about 3 seconds.

Option

Gentle

 These are functioning to shorten or lengthen the cycle time by increasing or decreasing temperature.

Damp Dry Beep

 This is a function to inform time.
 When is the most suitable for ironing with beeper sound.

Crease Care

- This is a function to reduce wrinkles.

Buzzer

This is a function to able to adjust volume of beeper sound.

PROGRAM CYCLE

Cycle Selection Table

Electronic Auto Dry Cycles			
Cotton (Whites and coloreds) (Note) Select the gentle by press	ing the option button for heat-sensitive items		
Towels, dressing gowns and bed linen	For thick and quilted fabrics	Extra Dry	
Terry towels, tea towels, towels, bed linen	For thick and quilted fabrics which do not need to be ironed	Very Dry	
Bath towels, tea towels, underwear, cotton socks	For fabrics which do not need to be ironed	Cupboard dry	
Sheets, pillowcase, towels	For fabrics which do need to be ironed lightly, not completely	light Dry	
Bed linen, table linen, towels, T-shirts Polo shirts and work clothes	For fabrics which do need to be ironed	Iron Dry	
Mixed-Fabric Cycles (Note) Select the gentle by press	ing the option button for heat-sensitive items		
Bed linen, table linen, tracksuits, anorak, blankets	For thick and quilted fabrics which do not need to be ironed	Very Dry	
Shirts, blouses	For fabrics which do not need to be ironed	Cupboard dry	
Trousers, dressers, skirts, blouses	For fabrics which do need to be ironed	Iron Dry	
Quick Dry Cycles		•	
A kind of linen and towel except for the special fabrics For the small loads of qualified fabrics with short drying times			
Timed Drying Cycles for selected	length of time		
Bath towels, bath robes, dishclothes, Quilted fabrics made of acrylic	Small clothes & pre-dried laundry Normal fabrics using hot temperature for 20minutes	Warm	
	Small clothes & pre-dried laundry Normal fabrics using hot temperature 40minutes	- vvarm	
All fabrics needing freshing, tumbles without heat			
Special Fabrics			
Wool	For wool fabrics	Wool	
Silk, Women's thin clothes, lingerie	For fabrics which are heat-sensitive like synthetic fabrics	Delicate	
Soccer uniform, training wear	For 100% polyester material	Sports Wear	
Bed clothes For bulky items			

A CAUTION

If the load is less than 1kg, please use "Timed Drying Course"

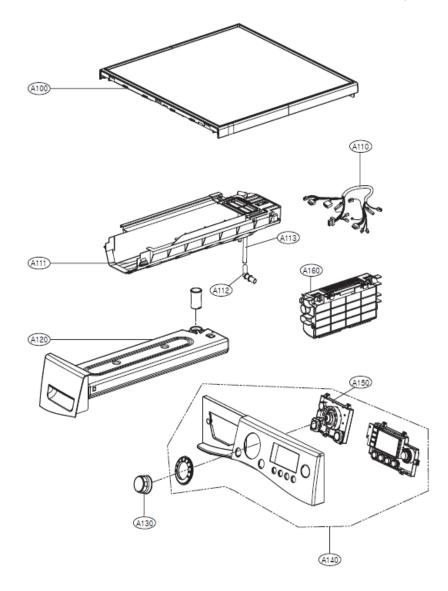
Your wool should be used in Wool program and heat-sensitive fabrics including silk, underwears, lingerie should be used in delicates courses.

Otherwise, these clothes can cause undesirable drying results.

PROGRAM CYCLE

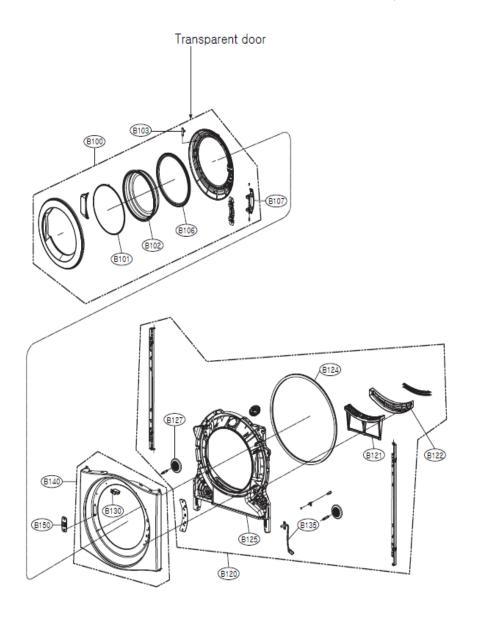
Cou	ırse	More time	Gentle	Damp Dry beep	Hand Iron	Crease care	Buzzer	Time Delay	Favourite	Antl crease	Left Time
Course	Detall	Less time									
Cotton C	Extra	X	0	0	Χ	X	0	0	0	0	125
	Very	X	0	0	Χ	X	0	0	0	0	120
	Cupboard	X	0	0	Χ	X	0	0	0	0	115
	Light	χ	0	χ	Χ	X	0	0	0	0	103
	Iron	X	0	χ	0	X	0	0	0	0	97
Mixed	Very	X	0	0	Χ	0	0	0	0	0	53
Fabrics	Cupboard	X	0	0	Χ	0	0	0	0	0	48
Tablico	Iron	X	0	χ	0	0	0	0	0	0	41
Qu	ick	X	χ	χ	χ	χ	0	0	0	0	50
Timed	Cool Air	0	X	X	X	X	0	0	0	0	40
Drying	Warm	0	0	X	X	X	0	0	0	0	40
	Delicate	X	X	X	X	X	0	0	0	0	45
Special Fabrics	Sports wear	X	X	χ	Χ	X	0	0	0	0	30
	Wool	X	χ	χ	Χ	X	0	0	0	0	21
	Bulky Item	X	χ	X	X	X	0	0	0	0	60

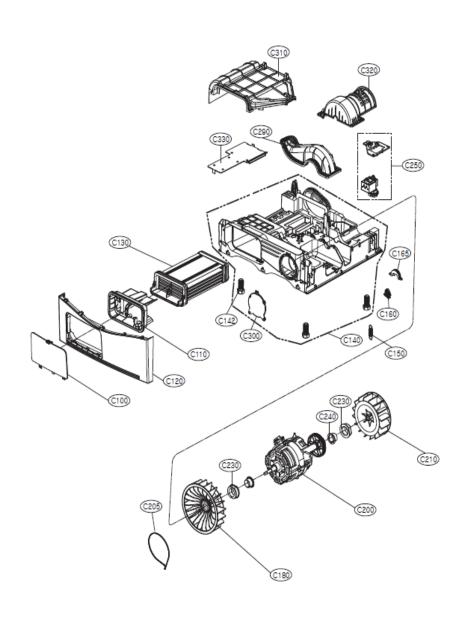
Control Panel & Top Plate Assembly



Cabinet Cover & Door Assembly

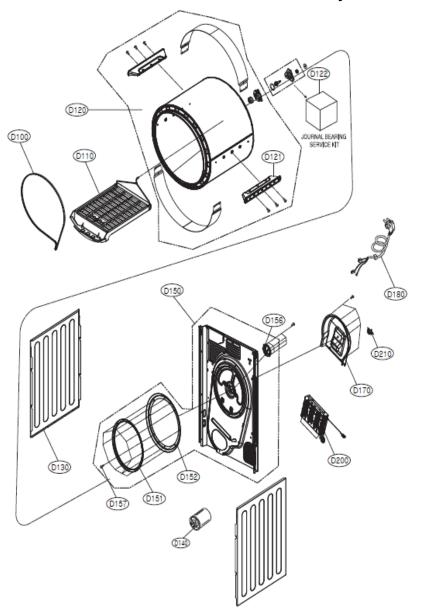
Base & Motor Assembly





Back Cover & Drum Assembly





Question	What to do			
Dryer doesn't work	1. Check dryer is plugged in 2. Check "Start" button is pressed. 3. Check door is properly closed. 4. Check Room temperature is below 5 °C 5. Check maintenance flap is properly closed. 6. Check a fuse is not blown or the circuit breaker is tripped and repla			
It takes a long time to dry	Filter should be cleaned after each load Check water container emptied Check cleanness of condenser Check to select correct program setting for fabric type. Check air intake grille or rear vents of the dryer to be obstructed. Check the c			
"Empty filter"lamp flashes	Check filter is cleaned Cleck condenser unit is clogged			
Drum light does not work	1. Check On/Off button is pressed.			
Clothes have lots of lints	1. Check lint filter is empty 2. Check dryer has only clean items 3. Check laundry is properly sorted in the drum 4. Check laundry is overloaded. 5. Check there was any paper, tissue, or similar item in the pockets of laundry			
The drying time is not consistent	The drying time for a load will vary depending on the heat setting, the size of the load, the type of fabrics, the wetness of the clothes and the condition of the exhaust ducts and lint filter.			
Water is leaking	Check the door and maintenance flap seals are dirty and damaged.			
The clothes are wrinkled	Check laundry is overloade. Try a shorter drying time and remove items while they still retain a slight amount moisture.			
The clothes shrinked	To avoid shrinkage, please carefully follow the care and use instructions for your garment, because some fabrics will naturally shrink when washed. Other fabrics can be washed but will shrink when dried in a dryer.			

Dishwasher



QC Test Mode

Button	The number of pushing button	Top Display	Checking point (Load / Display)	Door 상태
Half + Delay + Power	1 time	On:2H/ OU:00	All LEDs are lighting	-
PGM	1 time	On:2H/ OU:00	All LEDs are lighting	-
Rinse	1 time	On:2H/ OU:00	All LEDs are lighting	
Child Lock	1 time	On:2H/ OU:00	All LEDs are lighting	-
Spray	1 time	On:2H/ OU:00	All LEDs are lighting	-
Half Load	1 time	On:2H/ OU:00	All LEDs are lighting	-
	1 time	AG temp.	(D1455,54) AG Thermistor, AG Heater for 1.2 sec (D1453) noting	Closed
	2 time	Pump RPM	Drain Pump(3000~3600rpm)	-
	3 time	Frequency	Inlet valve	Closed
	4 time	n04	Dispenser	Closed
	5 time	Sump temp.	Sump Thermistor / Sump heater 1) Washing motor(1700rpm) for 10s 2) Sump heater on after Washing motor operating for 3s. 3) Keep doing vario initialization during this operation.	Closed
	6 time	n06	Fan Motor	Closed
Delay Start	7 time	Sensing value	Turbidity sensor	Closed
Delay Start	8 time	rpm	Washing motor	Closed
	9 time	AG water level	(D1455,54) Displaying H170† / L170† by turns	Closed
		-0	(D1453) nothing	
	10 time	n10	Regeneration Valve	Closed
	11 time	n11 -:	(D1455,54) DC Valve for AG (D1453) non-Steam 모델 표시 없음	Closed
	12 time	Cr → L0 → LT → UP → T0 → ALL (반복)	LQC Auto mode (Washing pump + Heater 20s + vario auto variation)	Closed
	13 time	n13	(UV model only) UV Lamp On	Closed
	14 time	-	Auto Off	Closed

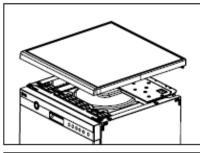
Error Codes

ERROR MESSAGE	POSSIBLE CAUSE FOR ERROR OCCURRENCE	REMEDY	
displayed Condition Not reached to the normal water level in spite of 10 min. water supply	The Water Tap is not opened. The Inlet Hose is kinked. The Filter of inlet valve clogged by impure water. The Inlet Water Valve is normal? The water pressure is very low. (below 0.5 kg/f _{em}) Inlet valve is blocked by safety device for leakage sensing.(In case of Inlet Valve)	Open the Water Tap. Repair the Inlet Hose. Color Colo	
displayed Condition Not fully drained out in spite of 5 min. drain operation	The Filter clogged. The Drain Hose kinked or blocked. The Drain Pump/Motor or circuit is troubled.	Clean the Filter. Remove the cause of kink or block. Replace the Drain Pump/Motor or repair the Circuit.	
displayed Condition The water level in Tub goes down during operation	Water leakage in Hose connections. Water is leaked by damages.	Replace the connections of Hose. Check the point of damages and repair or replace the related parts.	
EXCESS ERROR displayed Condition Excessive water is supplied than normal water level.(Automatically drain Pump operated.) THERMAL ERROR	The Inlet Valve is troubled. The Air Break is troubled. The Sensor Assembly is troubled. The Controller is troubled. The Circuit of thermistor is troubled. Thermistor is troubled.	Replace the Inlet Valve. Replace the air breaker. Replace the sensor assembly. Repair or replace the Controller. Repair the Circuit of thermistor. Replace the Thermistor.	
displayed Condition The resistance of ther- mistor not normally out put. HEATER ERROR	The Controller is troubled. The Circuit of Heater is troubled. The Thermistor is troubled. The Heater is shorted.	Repair or replace the Controller. Repair the Circuit of Heater. Replace the Thermistor. Replace the Heater.	
displayed Condition The water is not heated or the temperature in the Tub is overheated to over 95¡C	The Relay Circuit is troubled.	Repair the Relay Circuit	

BEFORE DISASSEMBLING THE DISHWASHER:

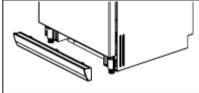
- 1) Remove the plug from electric outlet to avoid electric shock.
- 2) Close the Water Tap(faucet).
- 3) Remove all dishes and items in the dishwasher.
- 4) Remove the Lower Rack and the Upper Rack.
- In case of the water softener assembly model, open the water softener cap to flow out the water to sump and drain to avoid the floor wet.
- 6) If necessary, remove the inlet hose and drain hose to avoid the hose damages.
- 7) Prepare some towels to avoid floor wet by the water left in the dishwasher.

7-1. FULL DISASSEMBLE

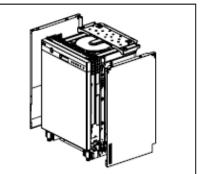


1. Top Table

- 1) Remove the rear 2 screws.
- 2) Pull and lift the top table.

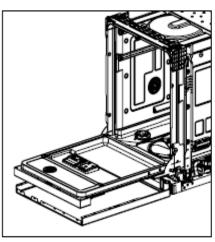


2. Lower Cover



3. Side Cabinet-R/L and Tub Felt

- 1) Cabinet-R
- Remove front 4 screws.
- ② Remove rear 3 screws.
- 2) Cabinet-L
- Remove front 4 screws.
- ② Remove rear 3 screws.
- 3) Tub Felt
- 1 Pull the tub felt



4. Door Assembly

- 1) Front Cover
- Remove 2 screws under a front cover.
- ② Open the door.
- ③ Remove 6 screws(stainless).

2) Control Panel Assembly

② Remove 8 screws(stainless).

Be sure the wiring should not be changed

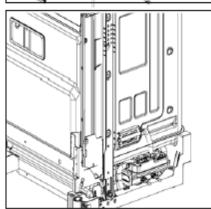
③ Remove wire connections.

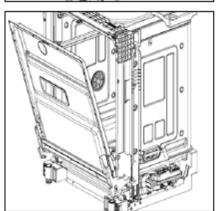
Open the door.

in reassembling.

4 Close the door slowly and remove front cover downwards.







- 3) Fan
 - Open the door.
 - ② Remove the wire connections.
 - ③ Remove 2 screws.
 - (4) Turn the inner cover counterclockwise.
- ® Remove the air duct.

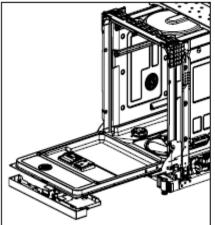
Be careful the rubber packing should not be lost.

- 4) Detergent Dispenser
- Close the door.
- ② Remove the wire connections.
- ③ Remove 6 screws.
- 4 Push the detergent slowly.
- 5) Door Spring (R/L)
- 1 Push the spring upwards and take it off from the hinge bracket.

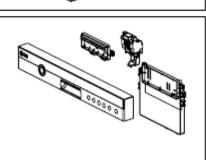
Be careful not to be injured by the sharp edge of Tub.

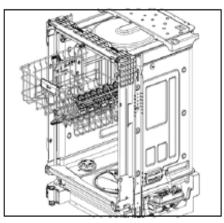
② Take off the hinge link from the hinge.

- 6) Door Liner
- Open the door.
- ② Remove the wire connection.
- ③ Pull the door liner upwards.



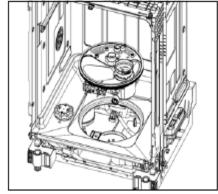




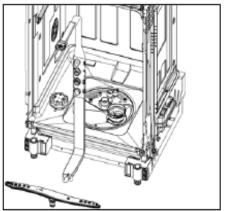


5. Tub Assembly

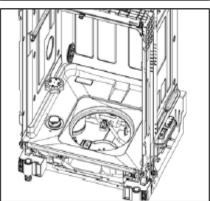
- 1) Rack
- Remove the top rack and the upper / lower rack.



- 4) Sump Assembly
- Remove the wire connections.
- ② Remove 2 hoses assembly.
- 3 Rotate 2 holders between sump and tub.
- Lift up sump assembly
- ⑤ Remove the wire connections in the back of the sump assembly.



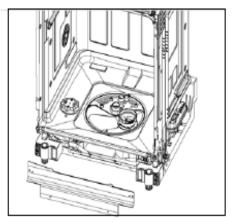
- Nozzle and Water Guide
- Pull up the nozzle.
- ② Remove the water guide from the tub bracket. (Top & Rear)



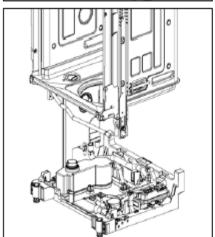
- 5) Air guide Nut and Water softener Cap & Nut
- Turn the air guide nut counterclockwise.
 (Special tool might be needed.)

Be careful the rubber packing of air guide assembly should not be lost.

② Turn the water softener cap & nut counterclockwise.



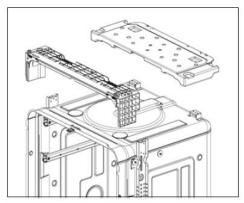
- 3) Lower Frame Assembly
- Remove 1 earth screw.
- ② Remove 2 screws.
- ③ Pull up the lower frame assembly.

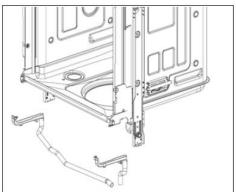


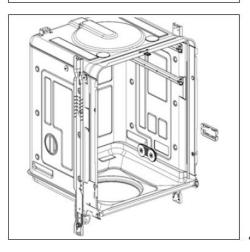
- 6) Tub Sub Assembly
 - Remove side 4 screws.
 - ② Remove 3 earth screws of right side.
 - ③ Remove rear 4 screws.
- ④ Remove front 2 screws between base spacer and tub hinge.
- Disconnect 1 hose assembly of right side.
 (Steam nozzle hose)
- Lift tub assembly upward.
 (Be sure water softener is not blocked.)
 - Be careful not to be injured or scratch floor by the sharp edge of tub.

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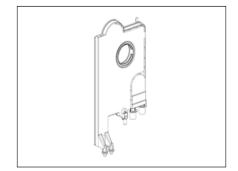


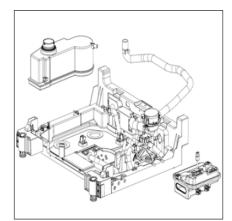


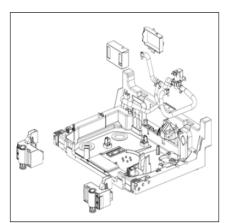
6. Tub Sub Assembly

- 1) Top Frame
- 1) Remove front 2 screws.
- 2 Remove side 2 screws.
- 3 Lift up top frame.
- 2) Balance Weight
- 1) Remove 2 screws.
- ② Lift up balance weight.
- 3) Overflow Guide (R/L)
- 1 Remove 1 screw of right side.
- 2 Remove 1 screw of left side.
- 3 Pull up the overflow guide.

- 4) Steam Nozzle
- 1) Remove side 4 screws.
- 2 Push the steam nozzle.







7. Air Guide Assembly

- ① Lift it upward to disconnect from water softener.
- ② Disconnect the wiring connection.
- 3 Remove 3 hoses assembly.

Be careful the o-ring should not be lost.

Be careful not to wet the floor by the water left in the hose.

8. Base Assembly

- 1) Remove the wire connections.
- 2 Disconnect hoses assembly.
- 1) Water Softener
- 1 Lift it upward.

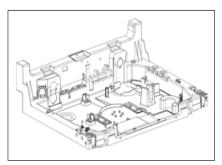
Be careful not to wet the floor by the water left in the water softner.

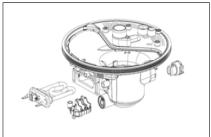
② You can disassemble the solenoid valve by unscrew the 2 screws.

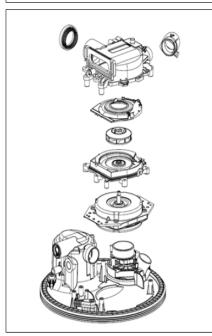
Be sure not to lost the spring and bobbin.

- 2) Steam Generator
- : Remove 2 screws of right side and lift it up.
- 3) Drain Pump Assembly
- : Lift up drain pump assembly.
- 4) Inlet Hose Assembly
- ① Remove 1 screw.
- $\ensuremath{{\ensuremath{\mathbb Z}}}$ Pull up Inlet hose assembly.
- 5) Float Switch
- : Pull out the float switch with pressing downward softly.
- 6) Base Spacer
- 1) Remove side 4 screws.
- 2 Remove 2 screws under a base.
- 3 Lift the front side of dishwasher.
- 7) Power cord assembly & Noise Filter
- 1) Turn the power cord 90° and take it off.
- 2 Remove 1 screw.

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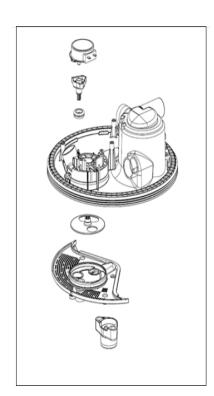




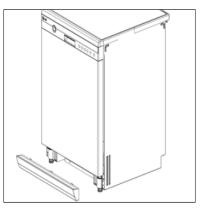
- 8) Aqua Stop
- 1 Press the holder hook.
- 2 Pull the hose assembly.
- 9) Drain Hose
- 1 Press the rear side hook.
- 2 Pull the holder forward.
- 3 Pull the holder upward.

9. Sump Assembly

- 1) Heater
- 1) Remove the wire connections.
- ② Pull the heater out of the sump after releasing the nut.
- 2) Pressure Switch & Soil Sensor
- 1) Remove the wire connections.
- ② Disconnect 1 hose assembly.
- 3 Remove 1 screw.
- 4 Pull up Pressure Switch and Soil Sensor.
- 3) Impeller & Washing Motor
- ① Remove 4 screws & 1 hose assembly.
- ② Lift up pump assembly.
- 3 Remove 6 screws.
- (4) Remove 1 screw under a motor.
- ⑤ Lift up 2 pump cases.
- 6 Remove 1 screw.
- 7 Lift up impeller.
- 8 Remove 1 screw under a motor.
- 9 Lift up pump cover.



- 4) Vario Valve
- 1) Remove 6 screws on the nozzle holders.
- ② Lift up nozzle holders.
- 3 Lift up Vario Valve.
- 5) Vario Motor & Vaio Cam
- 1) Remove 2 screws for Vario Motor.
- 2 Pull the Vario Motor/Cam and Micro switch.



1. Lower Cover



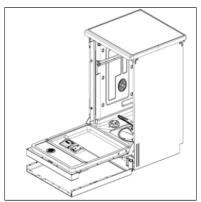


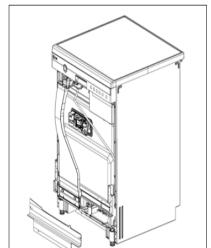
2. Front Cover



- 3 Remove 6 screws(stainless).
- ④ Close the door slowly and remove front cover downwards.

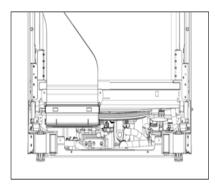
① Remove 2 screws under a front cover. (Special tool might be needed.)





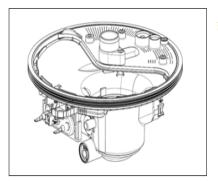
3. Lower Frame Assembly

- 1) Remove 1 earth screw.
- 2 Remove 2 screws.
- 3 Pull up the lower frame assembly.



4. Sump Assembly

- 1) Remove the wire connections.
- ② Remove 2 hoses assembly.
- 3 Rotate 2 holders between sump and tub.
- 4 Lift up sump assembly
- ⑤ Remove the wire connections in the back of the sump assembly.



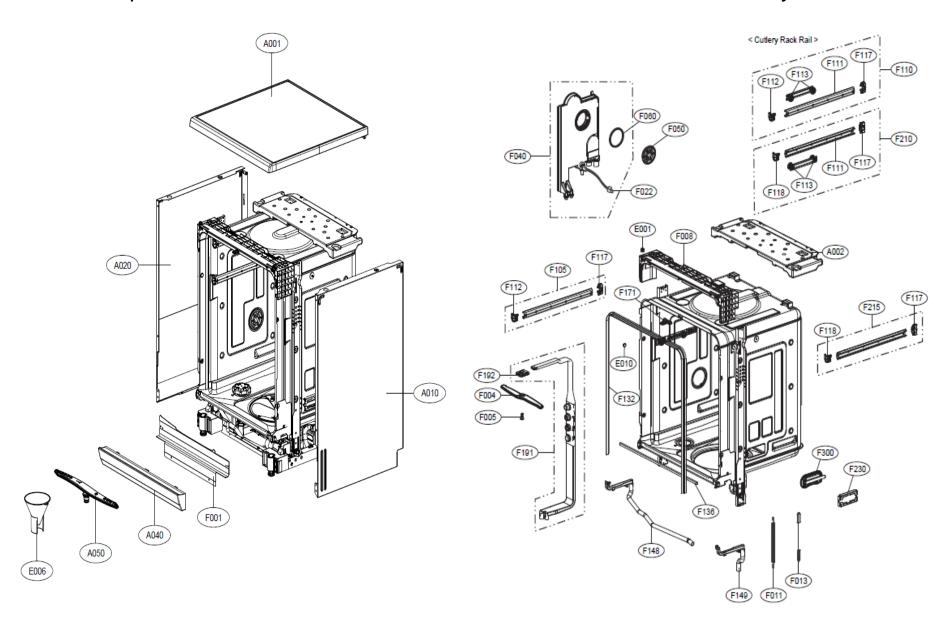
Now, you can remove the sump assembly from the tub perfectly.

You can repair the parts in the sump assembly like heater, washing motor etc.

You may refer to 7-1-9.

Top Plate & Side Panel

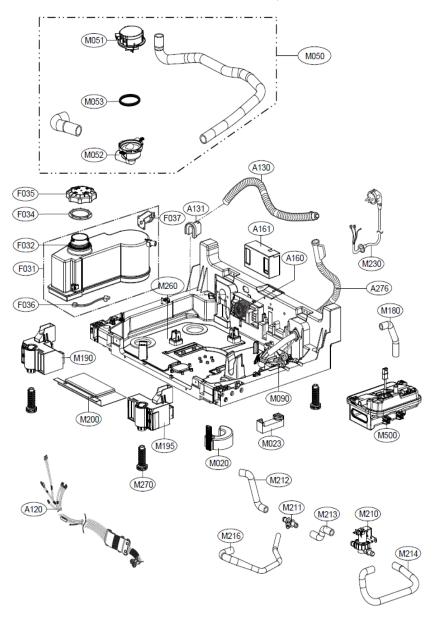
Cabinet Assembly



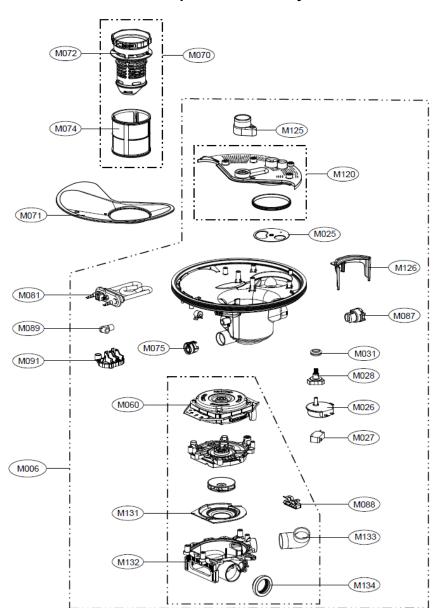
Door Assembly

(K200) K254 K260 (K252) K251) (K010) (K110) K101 (K124) (K121) (K122) (K001) F147 F146 F174

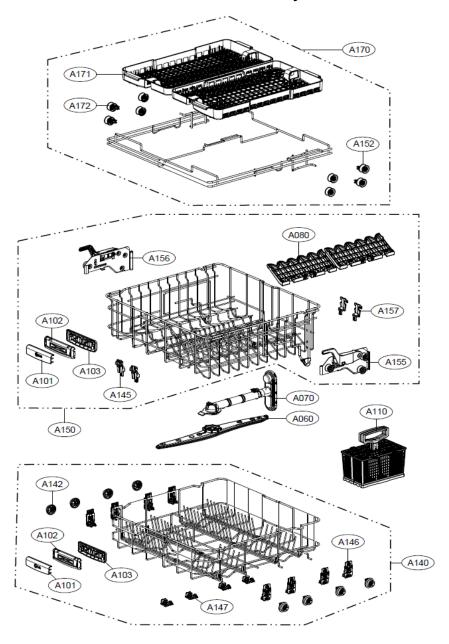
Base Assembly



Sump Assembly

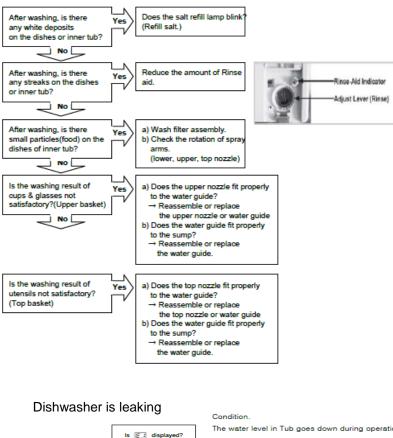


Basket Assembly

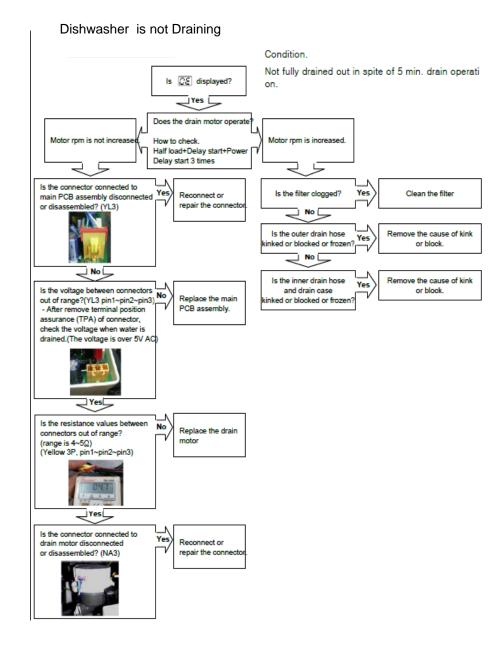


Dishwasher FAQ's

The washing results are not satisfactory



The water level in Tub goes down during operation or standby mode. ___ Yes __ Is the water flooded Water is not flooded in the base? Water is flooded in the base in the base Disassembly the lower cove Is the float assembled properly? Tilt the machine and drain Replace or repair the float. Remove the cause of leakage water in the base. And find the cause of leakage.



Using GSFS

http://gsfs-eu.lge.com

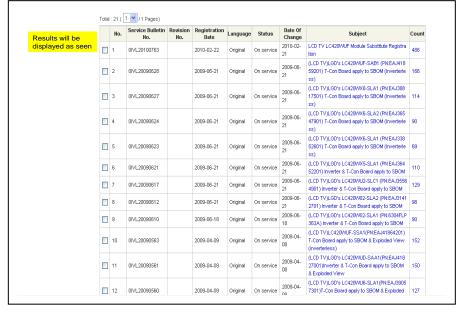


How To Check For Service Bulletins



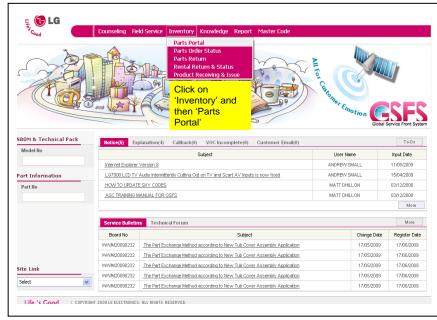


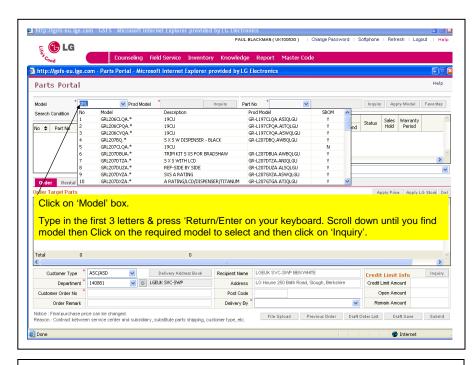


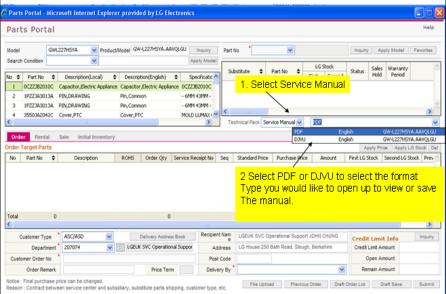


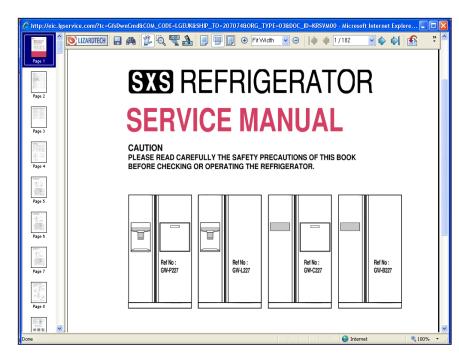
How To Download a Service Manual



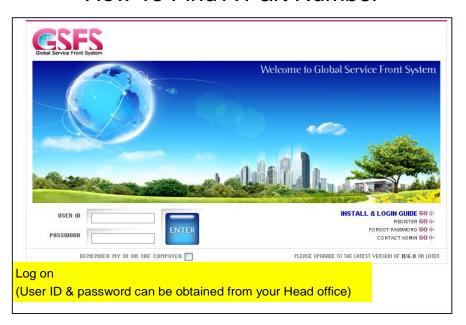


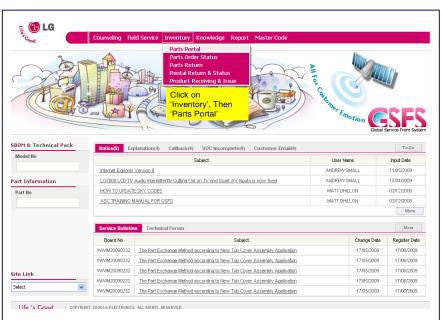


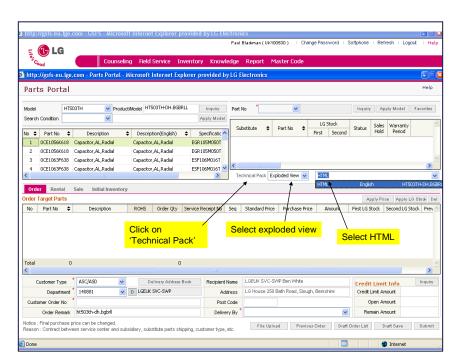


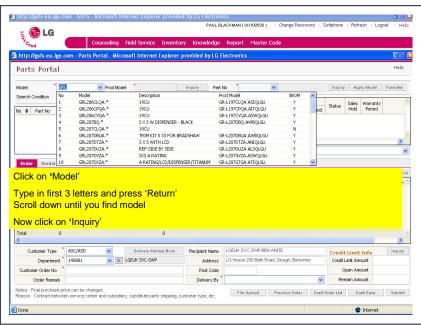


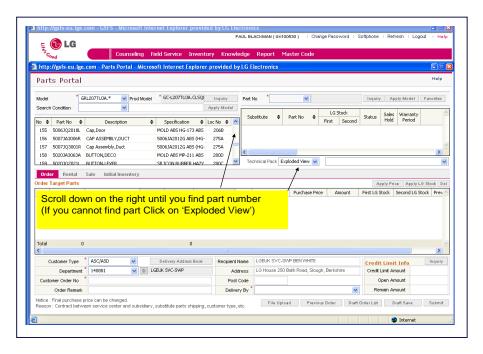
How To Find A Part Number

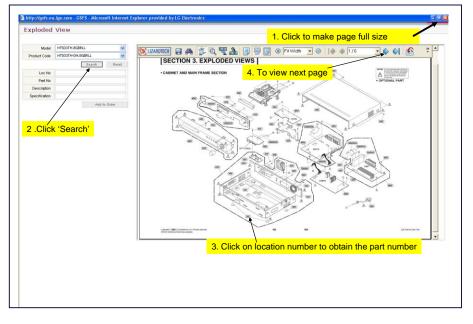








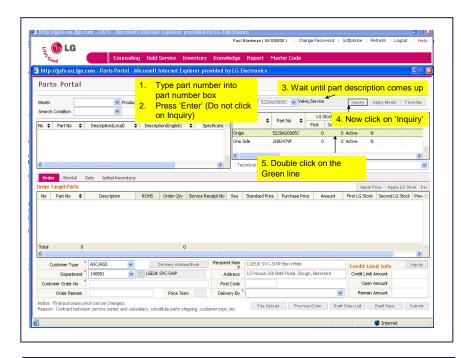


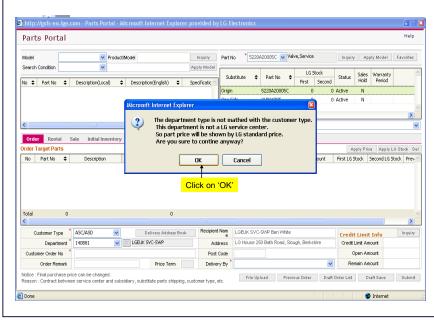


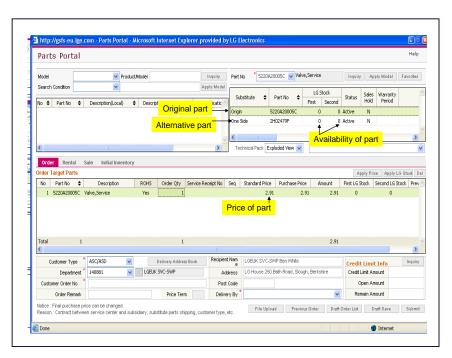
How To Find Price & Availability







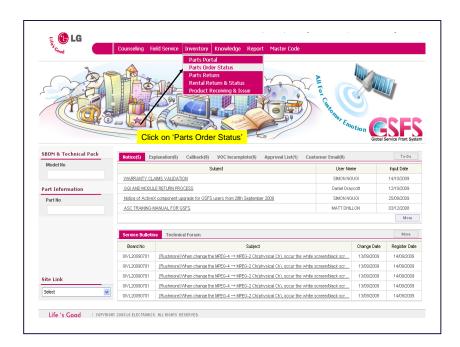


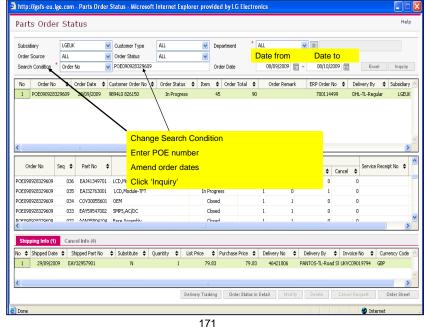


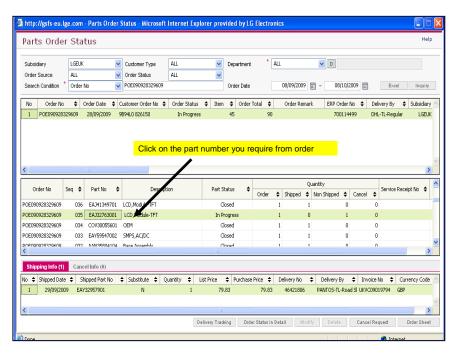
How To Cancel A Part from an Order

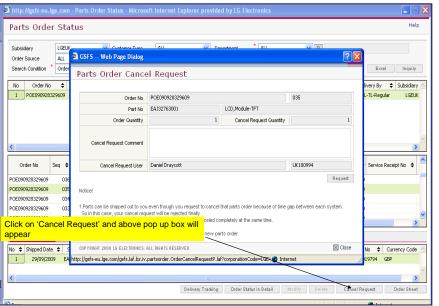


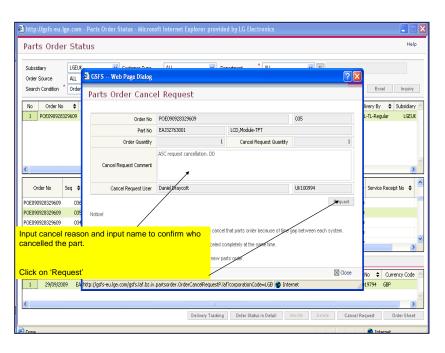


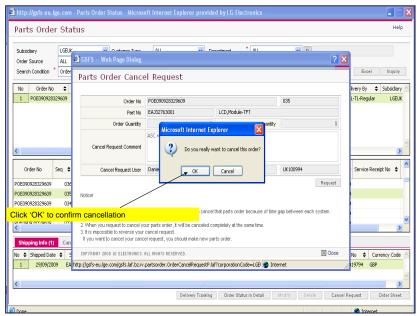


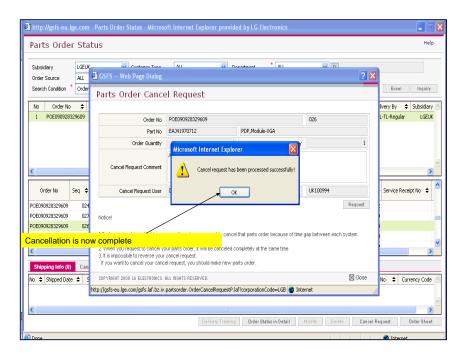


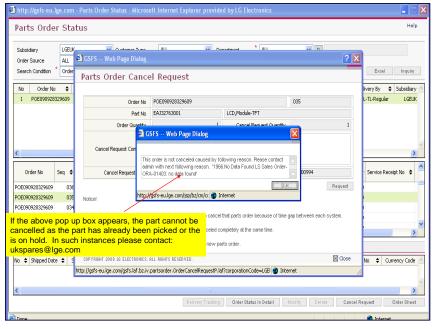






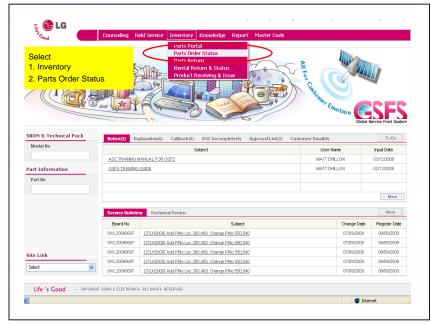


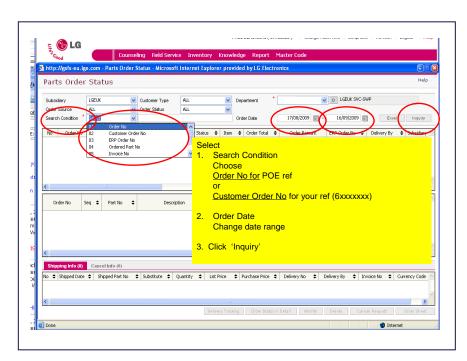


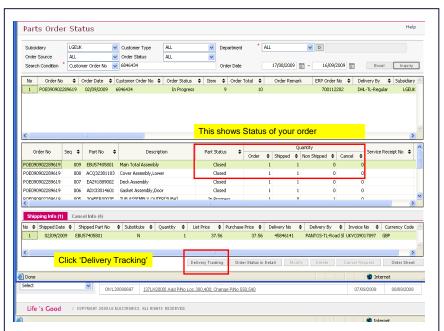


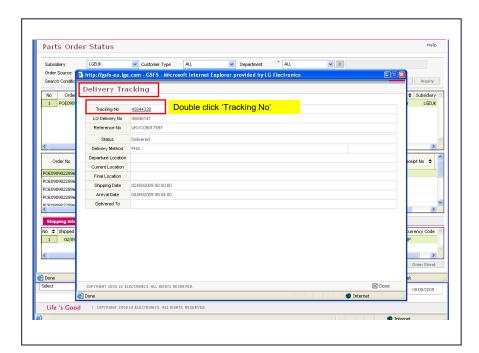
How To Cancel A Part from an Order

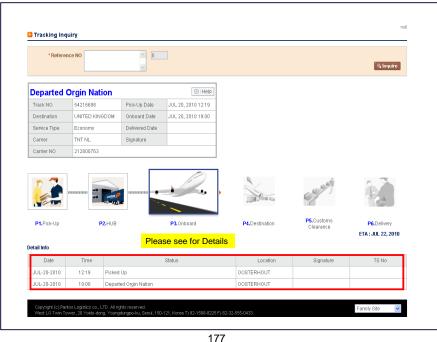












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Contacts & Support

Engineers Tech Support: 0844 847 1402 (option 2) 0844 847 1402 (option 1) **Spares Support: Spares Email:** ukspares@lge.com **Engineers Website:** Http://eic.lgservice.com **Warranty Claims:** ukwarranty@lge.com **Customer Information Centre:** 0844 847 5454 **Customer website:** www.lg.com